

American VEGETABLE GROWER

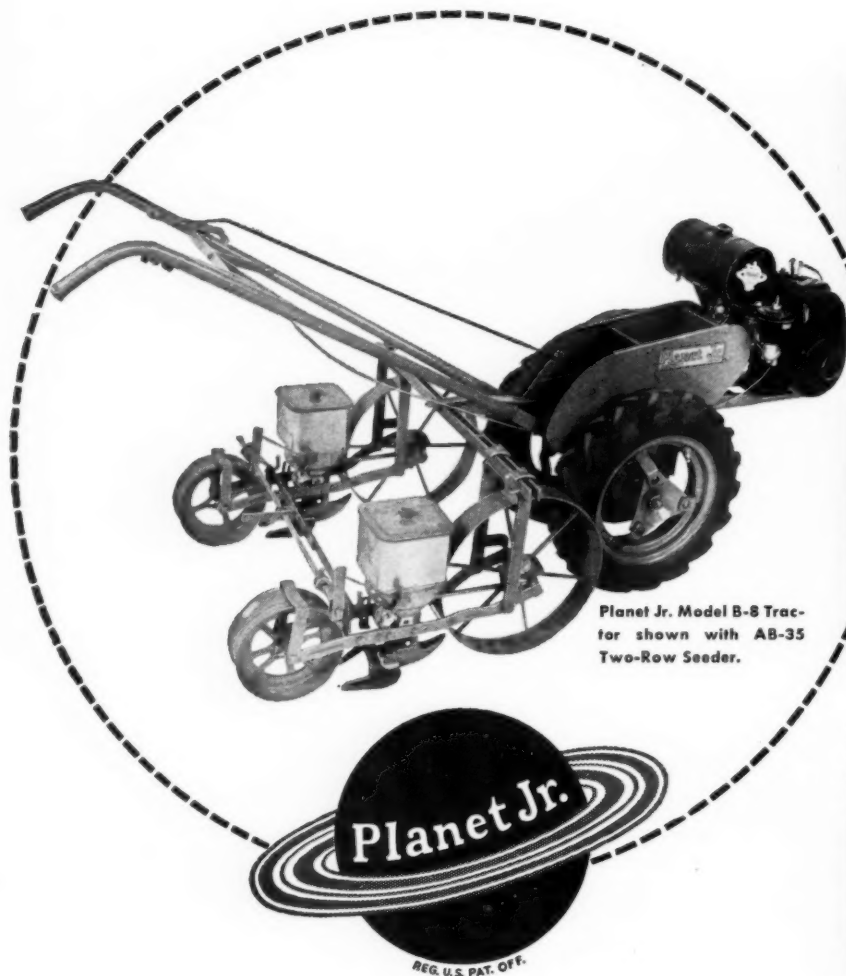
JUNE

1953

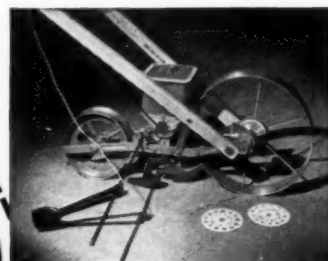


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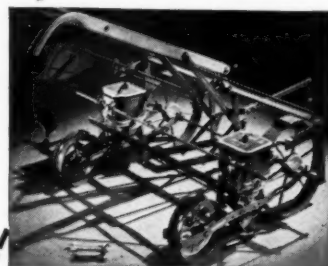
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300A Single Row Hand Seeder



157A 2-row Horse Drawn Seeder



Planet Jr. Seeders for general purpose tractors.

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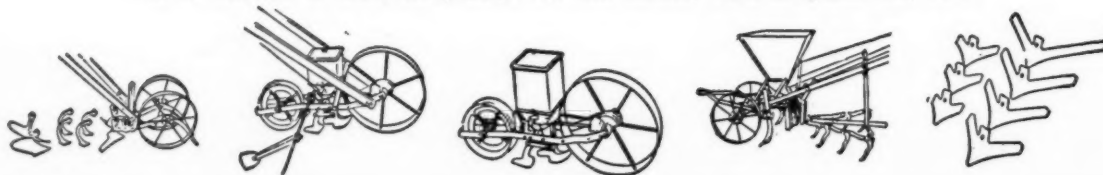
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Cultivating equipment is designed with the market grower in mind. The Planet Jr. line includes Tractors and Tractor Attachments...all kinds of Hand Seeders, Hand Cultivators, and Hand Fertilizer Distributors...Horse Drawn Seeders, Fertilizers, Cultivators...Planting, Fertilizing, and Cultivating equipment for general purpose four-wheel tractors...and an important assortment of Planetized* Tillage Steels.

*Trade Mark

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JUNE,

American VEGETABLE GROWER

(Formerly Commercial Vegetable Grower)

Vol. 1 • JUNE, 1953 • No. 6

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AMERICAN VEGETABLE GROWER

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JUNE, 1953

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Save time and labor by spraying a swath up to 32 ft. wide each trip across the field.

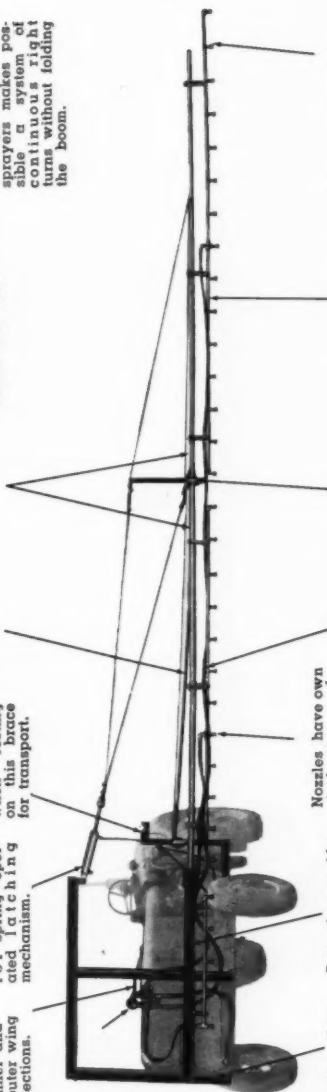
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Sturdy welded hinge.

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IN TWO MODELS SPRAYING 42-FOOT AND 32-FOOT SWATHS**



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MACHINERY AND
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Food processors, both freezers and canners, are most conscious of insect and disease injury as well as insect count in the produce they buy. Substandard crops bring substandard prices—or don't sell at all. You cannot afford to take a chance with inferior materials and ineffective methods of application.

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JUNE,

LETTERS TO THE EDITOR

Missouri Vegetable Queen

Dear Editor:

I am sending you a picture of the Missouri Vegetable Queen for 1953. She is Jane Boenker, daughter of Mr. and Mrs. Edward Boenker, Robertson, Mo., is 19 years old and a graduate of Pattonville High School in 1951.

Miss Boenker was crowned at the annual Queen Dance, held on Saturday, May 2, at the Creve Coeur Farmers Hall. Her maids in attendance were Shirley Franke, Lemay; Joyce Stegeman, Creve Coeur; and Patricia McNulty, Florissant. She was crowned Queen by retiring Vegetable Queen, Norma Roth. More than 400 people attended the dance.

Miss Boenker will compete in the National Vegetable Queen contest at the Vegetable Growers of America convention which will take place at the Chase Hotel, St. Louis, Mo., November 30 through December 4.

Milton Mueller

For photo of Missouri Queen of Vegetabledom see page 21.

Advices Visiting Supermarket

Dear Editor:

I enjoyed reading the interesting article by Dr. Rasmussen in your April issue. He makes an excellent point in advising vegetable growers to talk with produce clerks in supermarkets.

I took time out and visited a new supermarket recently. I was impressed at the tremendous potential of the supermarket as well as the intense competition between products. We must watch our step closely or the consumer's dollar will be lured away from vegetables by the strong pull of well advertised competing foods.

Belleville, Ill.

J. O. Howard

Likes to Experiment for Improved Varieties

Dear Editor:

I was very much interested in the comment in your May number about a seedless greenhouse tomato. I have a large area under glass and raise two tomato crops a year. I like to experiment myself, especially when it may lead to improved production practices. Would you please tell me the address of Dr. Marth, who did the work on 2,4-D for seedless tomatoes?

Cleveland, Ohio

J. R. Cloud

We are glad to give Reader Cloud Dr. Marth's address and hope he gains some useful information. It is: Division of Fruit and Vegetable Crops and Diseases, U. S. Department of Agriculture, Plant Industry Station, Beltsville, Md.

Growing Big Potatoes

Dear Editor:

I read about fertilizing potatoes for size in your last issue, and it brought to mind my neighbor, Jim Welch, who raises large Kennebec potatoes as shown in the photo. It took only twenty potatoes to fill a half bushel measure, and they weighed an average of two and one-half pounds apiece with the largest weighing three and one-half pounds.

Jim has been raising large potatoes for two years. He got his original seed by selecting the largest potatoes in a field of seed potatoes grown by a friend.

His practice is to add about 20 loads of cow manure to the acre and plow it under,



Jim Welch is shown with samples of his large Kennebec potatoes. These samples weigh from two and one-half lbs. and up.

adding a handful of commercial 16-16 fertilizer around each piece of potato. No blight or rot was experienced, the quality was good, and the potatoes were solid. After Welch took a blue ribbon for his potatoes he sold them for ten cents apiece.

Hollis, N. H.

C. L. Stratton

Likes Reports from Growers

Dear Editor:

When I opened my first copy of AMERICAN VEGETABLE GROWER, the May issue, I was wondering what I would see. If I had any doubts about the practical nature of your new publication beforehand, they soon disappeared. I am interested in chemical weed control in vegetable crops and your first article hit the nail on the head.

Not only am I interested in things that help my own business, but I like to hear what is going on in other parts of the country. I am wondering if from time to time you could give us a brief report of what vegetable growers in various parts of the country are doing. I think such a feature would help your readers just as your excellent market reports do. I am very happy to see the trend you are taking in presenting information to vegetable growers.

Jackson, Miss.

I. R. Snap

Spray Chart Helpful

Dear Editor:

Just received my first copy of AMERICAN VEGETABLE GROWER and I think it is a very useful publication. I shall want to keep it for reference.

The compatibility chart is just made to order. I can pin it up in the spray materials shed where anyone spraying can refer to it. I hope from time to time you can develop and present other types of charts equally as useful as this one. I shall be looking forward to forthcoming issues with anticipation.

Sumner, Wash.

J. C. Hall



The MAN Who BEATS

The WEATHER

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Insist on **HALE**

Irrigation Pumping Units
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BECAUSE HALE UNITS ARE—

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Why pay for rain that fails to fall? Only too often drought causes crop losses (as in 1952) that would pay for a complete irrigation system in one season! Hale Irrigation Pumping Units are available in gasoline, Diesel and Electric-driven models. Sizes range from large CIRV (which pumps 1800 U.S. GPM at 60 PSI; 1000 GPM at 170) to the small self-priming NP Unit with capacity of 60 U.S. GPM free flow; 15 GPM at 40 PSI.

Write Dept. AVG for detailed information.
State No. of acres and source of water.

IRRIGATION DIVISION

HALE FIRE PUMP CO.
Conshohocken, Pa.

The VEGETABLE Situation

LARGE overall supplies of vegetables are being harvested and are in prospect for the remainder of the year according to the USDA. Spring production was 10 per cent greater than in 1952 and first estimates for summer crops indicate a 15 per cent larger acreage for six important crops. Total acreage of all 1953 commercial vegetable crops is estimated at 10 per cent over 1952 and four per cent more than the 1949-51 average.

TOMATOES

Many reports of acreage and condition indicate larger available supplies this spring than a year ago. However, the crop is only in fair condition. Heavy rains, winds, or frost have damaged plants, reduced stands, and increased cullage in Florida, Texas, and South Carolina.

WATERMELONS

Most important crop among summer vegetables on a tonnage basis is watermelons. Watermelon supplies will be heavy this season. Acreage was estimated at 24 per cent above average for late spring harvest and 12 per cent more than average for early summer. Late summer harvest is expected to be larger, also.

ONIONS

A very large crop of early spring onions was produced this year which, when combined with large imports from Chile and Mexico, demoralized the market. Vegetable Growers Association of America reports that imports the first 16 weeks of 1953 amounted to 575,000 bags compared to only 306,000 bags for the same 16 weeks last year. Not only were imports larger but exports were 76 per cent lower.

Production of onions for late spring harvest is expected to be 52 per cent higher than last year and early summer acreage is expected to be larger, also.

Onions for late summer harvest or main crop areas was forecast at eight per cent larger than last year's small acreage but six per cent less than the 1949-51 average.

POTATOES

Both new and old potatoes are in heavy supply and prices are much lower than a year ago. All indications point to heavy supplies for the rest of the year despite pleas by the National Potato Council and the Secretary of Agriculture for growers to reduce production. The second largest late spring potato crop on record is forecast. Lower prices for early potatoes may influence some growers to delay marketing in hopes of improvement. Early commercial supplies may not be cleaned up on time and the holdover may effect prices of potatoes from intermediate states.

CABBAGE

Influenced by low prices from early spring crop, cabbage acreage is forecast at slightly smaller than usual for late spring, early summer, and late summer areas. It is hoped that these three below-average crops will give the market a chance to recover before early fall. If yields are no better than average, the acreages in prospect for early fall cabbage would produce a crop none too large for the strong demand expected.

OTHER CROPS

Production of spring crops of lima beans, snap beans, cauliflower, sweet corn, cucumbers, eggplant, carrots, green peas, and shallots is moderately below that of 1952. The production of asparagus, however, will be larger with an indicated total crop of 11,382,000 crates for fresh market and processing which is a 12 per cent increase over that of 1952 and six per cent more than the average production in the 1949-51 period.

Preliminary estimates of acreage of summer crops of cantaloupes, carrots, and green peppers point to a total acreage of 15 per cent above last year and six per cent greater than the 1949-51 average.

PROCESSORS STOCKS

Stocks are larger than a year ago for canned sweet corn, tomatoes and tomato products, carrots, pumpkin, squash, and sweet potatoes. Cannery may cut their packs of these vegetables to varying extents.

Stocks of canned snap beans, green peas, asparagus, lima beans, beets and sauerkraut are smaller than a year ago and these vegetables may be in stronger demand by processors.

Even though frozen vegetable stocks are record large another large pack is expected this year to keep up with expanding demand. Only frozen vegetables showing smaller amounts in storage than a year earlier are snap beans, Brussels sprouts, and asparagus.

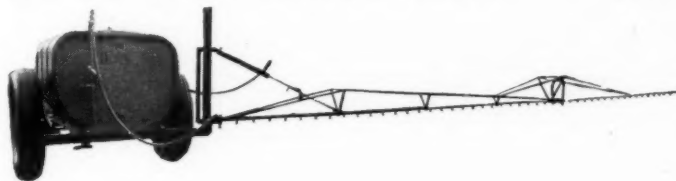
SWEET POTATOES

Record high prices were received for last year's small crop and growers are planting more acreage this year. Outlook is for lower prices but demand is expected to continue strong.

Hardie Equipment Helps You Cut the Cost of Crop Production

Complete pest control and adequate irrigation open the door to more profit for the grower. Hardie equipment makes possible low cost production of big volume high quality crops.

Advanced labor saving convenience, economy of material and long life of trouble-free operation are designed and built into every Hardie. Ask your dealer. Write for catalog data.



Easy Handling One-side Boom



This Hardie Spanrite one-side row crop spray boom features exclusive Hardie airplane-type truss design with welded tubular steel construction giving great strength and durability.

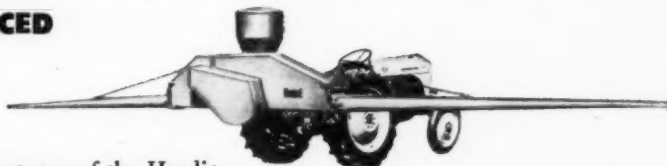
Tractor-seat hydraulic controls. Adjustable ground clearance. Fits any contour. 36 feet long. With nozzles for between-wheel spraying covers up to 42 feet.

New!

Hardie Model No. 161-WCERT engine equipped trailer concentrate row crop sprayer provides low gallonage, low pressure, light weight. Equipped with air-cooled engine, 8 row boom. Gives big savings in water, spray material, labor and time.

The ADVANCED Duster

No other duster ever built gives the priceless advantages of the Hardie Top Feed Hopper and the Hardie Tapered Tubular Steel Boom, features of the Hardie Row Crop Duster. The hopper gives accurate metering under all



conditions. The boom assures absolutely uniform dust application over entire length. Strictly one-man operated. Dusts 20 to 30 acres per hour.



Rain Control

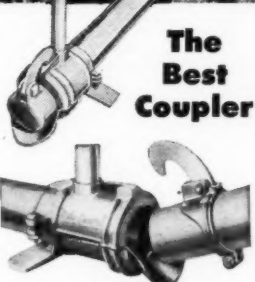
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Makes Water Go Further — Cost Less

It will pay you to compare before you buy—to see how Rain Control Portable Sprinkler Irrigation Systems cut labor, maintenance cost and make water go further, do more.

Made of strongest aircraft aluminum alloy, Rain Control gives ease of handling with highest resistance to

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The Best Coupler

The coupler is the most important part of any Portable Sprinkler Irrigation system. Compare the Rain Control Coupler with any other, and note the many exclusive advantages which save labor, time and trouble,



Hardie Builds Them All

- High Pressure sprayers for orchards, groves, row crops, weeds, cattle and general farm use.
- High and Low Pressure air blast sprayers for dilute, semi-concentrate and concentrate spray application.
- Aero-Mist Shade Tree Sprayers.
- Blo-Spray Air Blast Attachments.
- Row Crop Power Dusters of new advanced design.
- Rain Control Portable Sprinkler Irrigation Systems.

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Please send ☐ Rain Control Catalog
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Address _____

City _____ State _____

I am especially interested in _____



"A TOP-QUALITY BAG for our top-quality potatoes"

says FRED A. VAHLSING, JR.
FRED H. VAHLSING, INC.
NEW YORK, N. Y.

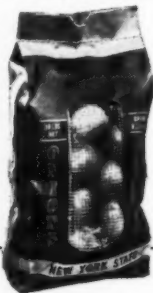
PREMIUM grades move faster when you pack them in Vent-Vu.

Take the case of Fred H. Vahlsing, Inc.

This experienced merchant uses Vent-Vu mesh window bags for his best potatoes. His records prove that Vent-Vu permits complete ventilation, dependably protects his merchandise, makes the greatest sales use of his potatoes' fine appearance.

Like other users, this leading packer knows you can ship Vent-Vu safely all over the country. Layers of wet-strength kraft safeguard potatoes against temperature changes, moisture, bruising and discoloration.

Vent-Vu has by far the finest record of successful potato merchandising of any mesh window bag. More growers use Vent-Vu than any other visible package for potatoes. Put this outstanding package to work for you.



for POTATOES, ONIONS,
ORANGES, GRAPEFRUIT,
SWEET POTATOES

LABOR SAVINGS add up when you ship in Union Master Potato Bags. One Master holds ten 5-lb. Vent-Vu bags or five 10-lb. units. A carload in Master Bags means handling only 800 units, as against 4,000 units of 10-lb. consumer bags. Your savings on handling alone pay for the extra protection.

Can be wire-tied or sewn.

Double layer of wet strength kraft insulates potatoes against sudden temperature changes.

Made with or without Pikup handles (of reinforced crepe paper).

Strong brand name promotion in up to four colors.

Wet-strength paper for safety from breakage because of moisture.

Big window for selling display.

Fills, loads, stacks faster than any other form of visible packaging.

Lacing of colorful cotton mesh for appearance, ventilation, protection.

Moisture-resistant adhesive.

Lots of room for sales-making recipes on the back.

Ties-in with United Fresh Fruit & Vegetable Assoc. "Sack-Fox" drive to increase potato use.

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JUNE,

Keep Sweet Corn COOL AND SWEET

Corn will lose 50 per cent of its sugar in 24 hours. Plenty of ice and a new type paper bag that resists dampness are preserving the flavor for the consumer

By **ELDON S. BANTA**

A NEW type of paper bag plus ice and quick, proper handling of sweet corn are combining to revolutionize the marketing of this delicate vegetable crop. I say delicate because its delightful flavor can be lost so easily—and so can its purchaser—through careless handling.

Experiments with icing sweet corn began a few years ago and the practice is now used by many leading growers producing corn for market. Growers first began icing corn in bulk and this method remains useful in many instances, especially in long distance shipping.

In 1950 the icing practice took a new, ingenious turn towards the better. In that year research workers of the Union Bag and Paper Company, along with Purdue University's department of horticulture, and Earl Mallison, director of research and development for the Atlantic Commission Company, began working together in the development of a new

type paper bag. It has been identified as the Multiwall Wet Strength Kraft bag.

The idea behind this project was to develop a container which would hold both corn and ice and thus keep the corn near 32° F. for several hours, or until the consumer could purchase it. It had to be of such size as to be handled conveniently in regular marketing channels.

The bag, as it has developed during the past two seasons, is a satchel bottom type composed of three sheets of 50-pound multiwall wet strength kraft paper. It is designed to hold four to six dozen average sized ears of corn and 20 pounds of processed ice.

In 1951, 30,000 of the special bags were manufactured for test runs in Indiana and a few other states. The response was enthusiastic and in 1952 demand for the bags soared. Indiana alone used over 75,000 last year.

How does icing preserve corn quality? The flavor or quality of sweet corn depends upon its sweetness, its sugar content. Best flavor is obtained when corn is harvested at the milk stage and contains from four to six per cent sugar. The normal process in the maturing of an ear of corn is the changing of sugar to starch. Starch does not have a sweet flavor like sucrose, or cane sugar, which the kernels first possess.

When an ear of corn is pulled from the plant the process of converting sugar to starch goes right on, and frequently at a faster rate than before pulling. The higher the temperature, the faster the conversion process. Hence, the reason for icing sweet corn is to preserve as much of the original sugar as possible.

To give some idea of the rapidity of change at various temperatures I should like to quote a few figures.

Sweet corn pulled and held at a temperature of 86° F. for 24 hours



J. C. Allen and Son



Courtesy Purdue University

Chilled sweet corn at Harmon Packing Plant, in Indianapolis, Ind., being packed in bags which hold five dozen ears and 20 pounds of ice. The Harmon Plant can pack up to 10,000 dozen ears daily.

will lose over half of its original sugar content. Outdoor and indoor temperatures during the corn season usually are pretty much the same. Do you see what happens to corn flavor unless something is done to reduce rate of sugar conversion?

A lot of sweet corn cannot get from field to consumer's table within that 24-hour period either. If held at the same temperature as mentioned for 72 hours, the corn will have lost almost 60 per cent of its sugar. There just isn't much flavor left and if Mrs. Consumer has bought this kind of corn once, chances are she isn't going to try it again.

What about icing and sugar loss? If corn is put into one of the new bags containing 20 pounds of ice, the temperature will be roughly 32°. If the corn is held for 24 hours at this temperature it will lose only about eight per cent of its original sugar. If held for 72 hours it loses only 18 per cent of its sugar. If kept for 96 hours it still has 78 per cent of its original sugar content, and is still pretty good tasting corn.

Prof. J. S. Vandemark and his assistant, K. A. Gast, of Purdue University's department of horticulture, have conducted a lot of consumer acceptance tests on iced and packaged corn. Their surveys show overwhelming preference for the iced corn. The main reason voiced by consumers was "It tastes better."

Fast handling is just as important in moving iced sweet corn as for older methods. As soon as the ears are pulled from the plant they should be placed in an ice bath of some kind

to remove the field heat. The sooner this is done the better. Large growers and shippers of sweet corn are now using hydrocoolers to do this job. Corn is rushed from field to hydrocooler and cooled in a matter of minutes to 32°.

Once cooled it must be packed, iced, and trucked to market as quickly as possible. It should be held under ice in the retail store until sold. This is where the new paper bag serves an important function. The grocer can keep his sweet corn iced because he receives it that way. It adds also to sales appeal.

A check has shown that the icing operation does not affect the costs of the grower or shipper who per-

forms the job. The consumer, who really wants his corn garden fresh, pays the added cost. Many stores that offered iced sweet corn along with conventional corn discovered that the most repeat sales were on the iced corn even though it was priced high enough to cover the cost of the icing operation all along the line.

All that has been said about preserving corn quality presupposes that the grower has already grown a quality crop. To do this he must be vigilant in cultural practices, in his choice of varieties, and in his pest control program. Once having achieved these objectives, he now has a valuable aid to preserving the quality of his product.

THE END



The hydrocooler removes field heat from sweet corn in a matter of minutes.

AMERICAN VEGETABLE GROWER

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SOIL FUMIGATION

Controlling soil pests of vegetables makes possible remarkable increases in yield

DURING recent years rapid progress has been made in the use of soil fumigants for the elimination or reduction of soil-borne pests that attack various crops. This progress may be attributed to the development of chemicals and equipment suitable for large-scale field application, and also to the fact that researchers are beginning to associate certain plant diseases with little recognized nematode pests.

Soil fumigation may be considered the same for the underground portions of the plant as insecticide and fungicide applications are to the aerial portions. The chemicals diffuse throughout the soil as a gas, destroying or reducing the population of soil-borne pests that attack the plant roots. Except for a few specialized instances the application of soil fumigants is made prior to planting.

Methyl bromide in solution and chloropicrin are satisfactory for small-scale application such as seedbeds, plantbeds, greenhouses, and potting soil, and depending upon dosage and method of application give varying degrees of control of nematode and insect pests, diseases, and weed seeds.

For large-scale field applications ethylene dibromide formulations or a dichloropropene - dichloropropane mixture should be used. These materials have proved practical and economical for the control of many soil-borne insect and nematode pests. Disease control is generally associated with the reduction of root-injuring plant parasites which allow for the easy entrance of plant disease organisms. Under certain conditions weeds may also be reduced.

Application can be made with a chisel applicator, either a trailer-type or tractor-mounted. The fumigant is applied through tubes attached to the back of the chisels. The fumigants should be applied to soil in seedbed condition when the soil is warm and sufficient moisture is present to support plant growth. The chisels are generally 10 to 12 inches apart and the fumigant is placed six to eight inches below the surface.

These fumigants can also be applied at the time of plowing by spraying or dripping them into the bottom of the furrow where they are immediately covered by the next furrow slice. With either method the soil surface should be leveled and

packed immediately to prevent too rapid escape of the gas.

Under conditions conducive to rapid aeration, crops can be planted in 10 to 14 days. When the soil is cold and/or wet, longer periods of aeration may be found necessary.

The sandy and silt-loam-type soils lend themselves to fumigation more than do the heavy clay and organic-type soils but by increasing the dosage good response may be obtained on the latter soils.

Soil fumigation will control the following pests, and it is important that the pests to be controlled are

In certain areas, the importance of these latter groups as factors in crop production is now being recognized. It is felt that these nematodes are limiting the production of many crops but it will be impossible to evaluate the importance of these pests until workers become more familiar with the species involved and the damage they cause.

While soil fumigation has been used on a small scale for seedbeds and greenhouses for many years, large-scale field applications have been made only recently. In the presence of insect and nematode pests soil



Excellent response of carrots to soil fumigation for control of root knot and lesion nematodes is shown by this comparative photograph. Carrots at left are from fumigated area; center, from moderately infested area; right, from heavily infested area. Other vegetables grown on nematode infested, fumigated land responded similarly.

known. Large insect pests such as wireworms and grubs are easily recognized, as is the injury they cause. The presence of the root knot nematode is also easily determined by the galls they produce on susceptible crops. Certain cyst-forming nematodes, such as the sugar beet nematode and the golden nematode of potato, are also readily recognized.

However, there are certain forms of nematodes whose presence is more difficult to determine because of their small size, and the injuries they cause to various crops is not fully understood. In this group are the lesion nematode and little known species that cause damage to roots.

fumigation is necessary for the satisfactory production of carrots, sweet potatoes, Irish potatoes, beans, melons, onions, celery, tobacco, sugar beets, cotton, strawberries, ornamentals, and many others. The cost of treatment is more than offset by the increased quality and quantity of the marketable produce.

These fumigants are toxic to plants, animals, and man, and on contact can cause severe burns, illness, and even death, depending upon the chemical and the conditions under which it is used. In order to avoid injury the precautions set forth by the manufacturer should be followed very closely.

THE END



Happy WORKERS ARE Good WORKERS

With labor scarce and expensive, knowing how to manage your help is just as important as variety selection or insect and disease control

By L. H. BROWN
Michigan State College

A DURABLE relationship between a farmer and his help involves more than just dollar-wages and hours of time. Those are important, but—if "life is to be worth living"—some loyalty, co-operation, and good will must be included in the deal. How to build them into the bargain between employer and employee is an art that is as essential to a vegetable grower as selection of varieties, use of fertilizer, control of insects, or any of the dozens of technical skills that must be mastered. With labor scarce and expensive, this art is becoming increasingly important because good labor relations and high labor efficiency go hand in hand.

Maintaining good relations between employer and employee is a lot like maintaining good relations between husband and wife. Both parties have certain responsibilities, and there must always be some give and take. Here are suggestions for both employers and employees:

PAY A FAIR WAGE—Dollar wages vary from area to area over the country. A fair wage is the going wage for the community considering the responsibility and ability of the worker.

Much work in vegetable production is done on a piecework basis, so the earnings of laborers depend largely on ability. Employers can do much, however, to provide conditions under which the piecework employee can attain maximum output.

Much can be done to improve seasonal workers earnings by helping to provide continuous work in the neighborhood. A little careful planning between neighbors is frequently greatly appreciated by the migrant and his family. The employee's part in this bargain is to give a fair day's work for a fair day's pay.

FURNISH GOOD HOUSING—It is extremely important that the worker's wife and family be satisfied and comfortable. It is infrequent that one can find a year-around worker whose wife will agree to live in a house unless it has a bathroom, running water, and a reasonably convenient kitchen. A little paint and wallpaper for the family to apply is often an effective bonus.

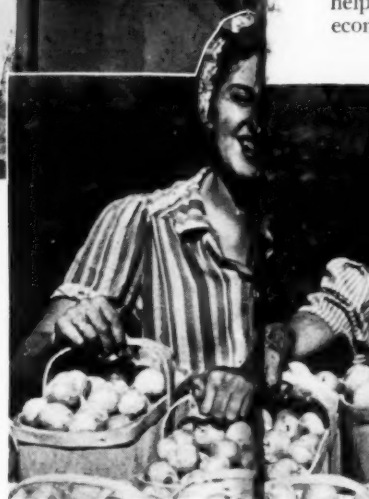
Comfortable, sanitary housing also pays off in dealing with seasonal workers. Laborers return to the same farms year after year where good housing is available. Labor placement people find that one of the first questions asked by the migrant is, "What kind of housing does he have?"

Workers should keep in mind that good housing is expensive. They and their families have a responsibility to their employer to maintain a house in good condition, mow the lawn, and keep the entire surroundings looking neat.

FURNISH GOOD EQUIPMENT—At the current high price of labor, it is uneconomical to operate a farm with inadequate equipment. Perhaps even more important, there is nothing more irksome than to have to tinker with poor equipment when attempting to get a job completed. It is only a short step from criticizing the equipment to criticizing the owner of the equipment.

Observations indicate that help will be better satisfied and easier to live with, as well as more productive, if the equipment is modern and kept in good repair. Most human beings get a lot of satisfaction from being able to accomplish a good day's work. Hired help can get more of this satisfaction if the orchard equipment is good.

Workers' responsibility in this phase of employer-employee relations is to exercise care in their use of the equipment provided. There is no easier way to arouse the worst in an employer than to be reckless and destructive with good equipment.



AMERICAN VEGETABLE GROWER

MAINTAIN A NEAT, HANDY AND SAFE WORK PLACE—

Most people prefer to work in well-kept surroundings. One cannot expect workers to pick up tools, and the junk which accumulates as a result of every-day tasks around the farm, unless the owner is careful about such things himself.

Be sure that machinery is equipped with safety shields and that stairs, ladders, and shed floors are safe. A farm owner is liable for the safety of his help. Lack of safety precautions make economic hazards in addition to being

under supervision, and then 4) put him on his own. Training has increased in importance as farm jobs have become more complicated by mechanization and as more of the seasonal help is without much farm background and experience.

Workers should try to learn to do their work as the employer wants it done. Frequently the employee can suggest improvements in methods.

HELP WITH UNDESIRABLE

JOBS—There are always some farm jobs that nobody likes to do. It is easy for the employer to assign these tasks to a hired hand, and it probably is his right to do so. The constant resort to this practice does not, however, make for good labor relations. Certainly the hired man must not expect to draw only the pleasant jobs—but neither should he be given all the unpleasant ones to do alone. Frequently one can afford to sacrifice some efficiency by putting a "gang" on an undesirable job to lick it in a hurry.

BE WILLING TO ACCEPT

SUGGESTIONS—Both employer and employee should be willing to accept suggestions. Each must recognize that "to err is human."

Keep in mind that there is only a short step from an ignored suggestion to a grievance. When you accept the suggestion of an employee, be sure

(Continued on page 29)

detrimental to good labor relations.

Workers can contribute much by taking care of tools—helping to keep the farmstead clean and neat, as well as taking care to avoid accidents which might cause personal injury or property damage.

KEEP REASONABLE HOURS

—Rather than greatly increasing the output per man, excessively long hours frequently result in an increase in fatigue and labor turnover. Men, unlike the machines they operate, need rest. Some farmers seldom work longer than a 10-hour day, with frequent days somewhat shorter. If farmers are to continue to compete with industrial employers for labor, something less than the old 12- to 14-hour workday is a "must."

Farm employees should recognize that the nature of vegetable production does not call for the same length of work day at all seasons. Extra hours one day can be exchanged for fewer hours another day at little inconvenience to the employee and at great benefit to the employer.

TRAIN WORKERS—An important step in the psychology of labor relations is to let the worker know what to do and how you want it done. The essential steps are: 1) tell him, 2) show him, 3) let him do it

Here are some comments by Michigan growers who have found it worth while to provide suitable housing for their seasonal help:

"The investment I made in better housing is the best investment I ever made."—Henry Peters, Benton Harbor.

"Seventy-five per cent of the farm labor troubles are due to lack of housing."—Max Calderwood, Berrien Springs.

"Better Housing always attracts better help."—Abel Teichman, Eau Claire.

"I provide good housing even though my season is short. It enables me to get better help than do my neighbors who are short of housing."—Robert Seaberg, Traverse City.

"If there is not enough help for all, the grower who lacks housing goes without."—Everett C. DeLong, Northport.

"My help stays with me even during slack periods. They like my housing."—Howard K. Stracham, Ionia.

"When I provided housing I licked the help problem."—Brink Bolthouse, Clarksville.

"We had to hire a new crew every season until we put up some good housing. We have had the same help every year since."—Orin Wylie, Shelby.

A comprehensive publication on "Homes for Seasonal Farm Help," which includes plans, building details, and practical helps on the problem of sanitation, is Farm Building Service Circular 711, available from Michigan State College, East Lansing.



Examples of housing units for farm workers are shown in the photographs above and below and on facing page. Trees and shrubbery help provide a pleasant atmosphere.





THESE PLANS ARE AVAILABLE
Working drawings showing construction details are included with the following plans:

Tenant House	\$1.00
Roadside Market50
Machinery Storage & Repair Shed	1.00

Send remittance in the form of check, money order, or cash to

AMERICAN VEGETABLE GROWER
Willoughby, Ohio

This basic tenant house can be built as a single unit or a multiple family dwelling.

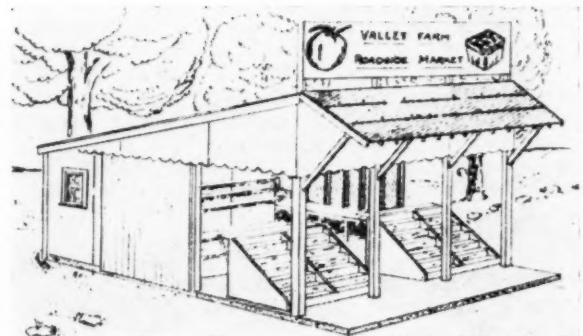
BUILD FOR TOMORROW

When You Build Today

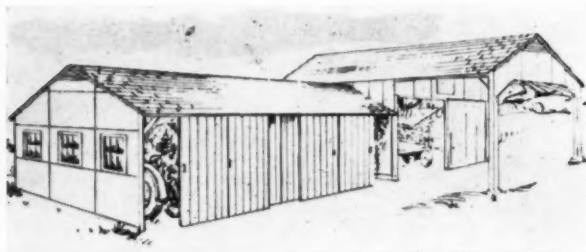
THE three buildings illustrated here are well designed and economical to construct. They have been designed, too, with the purpose in mind of possible expansion.

The tenant house, for example, can be a single or a double unit, and the flexible plans make it possible to have five different room arrangements, each containing a kitchen, two bedrooms,

The overhanging roof on this roadside market protects the customer buying produce.



Machinery storage section is series of 12x24-foot bays with no center posts. The two-story farm workshop is 24x24.



dining space, and a compact living room.

Suggested wall construction is wood framing, covered on the outside with large sheets of plywood that can be stained or spray painted. The inside face of such wall sheathing provides a satisfactory wall finish where exposed wall studs are not objectionable.

Where year-round occupancy is desired, interior walls should be finished and the hollow spaces between the studs insulated with batt or blanket type insulation.

The roadside market is designed to attract the customer with an eye to his convenience and quick service. There are two movable display racks in the front of the market where the customer can stand under the shade of the overhanging roof to inspect the grower's products. Adjustable shelves which can be made deep enough and spaced far enough apart to hold any type of container are a feature of the display racks.

A sliding panel on each side of the market will shut out the hot sum-

mer sun or rain. The interior is designed for rapid service, containing a handy counter with sink and supply shelf, a refrigerator and storage room.

The machinery storage and repair shed is efficiently designed for the average grower. The machinery storage section is the drive-through type with no center posts to obstruct the floor space. Large sliding doors at both front and back make it easy to store and remove equipment. Since the plan is designed in a series of 12x24-foot bays, it is possible to build this structure to meet any farm need.

The 24x24-foot repair shop is two stories high with a cement floor on the ground level and a wood floor on the second. It is laid out to provide for shop facilities for farm machinery repair on the lower floor and for storage of machine parts on the second floor.

THE END

AMERICAN VEGETABLE GROWER

New Practices in SPRAYING AND DUSTING

The technique of spraying and dusting is undergoing some revolutionary changes. Here is the latest information on what to expect

By FRANK J. ZINK

THE insect invasion is on! It is an invasion which has a yearly cost to the American vegetable grower of \$195 million. The defense against this chewing and sucking horde is spraying and dusting which may cost a mere fraction of the potential loss.

The weeds and fungi, too, are fighting a losing war. The last 10 years have seen giant strides in the development of insecticides, fungicides, and herbicides, in equipment for their application, and in skill in their use. Increased yields in many crops testify to man's success.

Vegetable growers can take much credit for progress in this development because they pioneered in the use of sprays and dusts. It was the potato growers of Colorado who were first to develop and use the modern spray.

Development of spraying and dusting practices and equipment has been so rapid in recent years that a great need exists for up-to-date information. Take, for example, the use of concentrated solutions in sprays, a relatively new practice. Unless a farmer has experimented, he might not know that by reducing the quantity of water in a chemical spray he can save in labor costs and the quantity of material used.

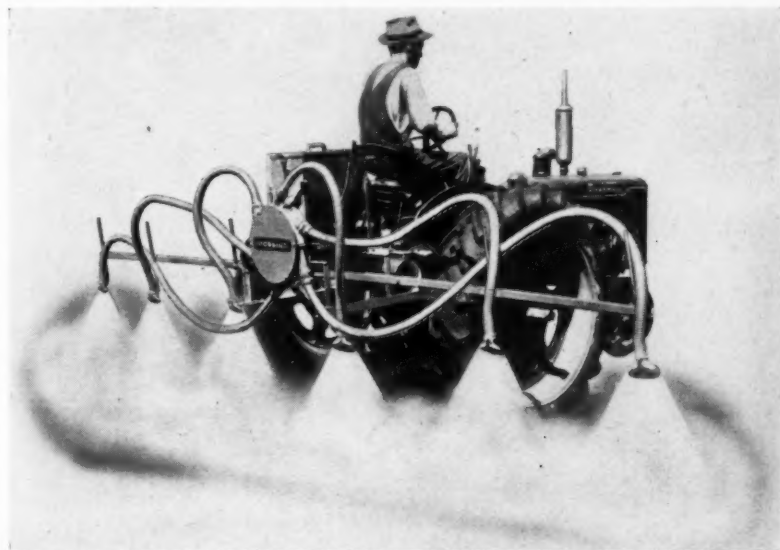
A glance over current literature on the subject shows that farmers who

have tried concentrates have had good results. Midwest vegetable growers using stronger solutions found they could protect their crops with sprays of 40 gallons to the acre as compared with 160 gallons formerly used.

Indiana tomato canners used double concentration sprays at half pressure for septoria blight and reported it effective. Other Hoosier tomato growers mixed their sprays at four times the usual concentration with a satisfactory outcome.

This is not quite so simple as it sounds. To use concentrates it is necessary to employ specially designed equipment. The concentrate sprayer utilizes a low-pressure, low-volume pump which forces the spray material under low pressure to the fan. There it is discharged into the air stream in small spray droplets by a group of nozzles or a shear plate.

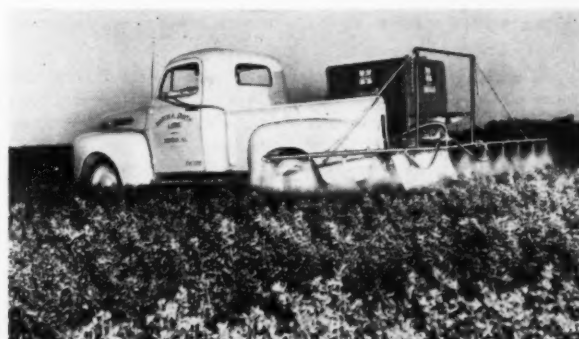
The air stream assists in breaking up the liquid into small particles, acts as a diluent to prevent the drops



The tractor-mounted duster can be set on and off the tractor easily and quickly.



The tractor power take-off driven trail-type sprayer aiding in production of a successful cabbage crop.



The skid-mounted unit with separate engine power can be quickly set on the pick-up truck for fast coverage.

The author, FRANK J. ZINK, is secretary of the National Sprayer & Duster Association, Board of Trade Bldg., Chicago 4, Ill.



The single side application of spray materials serves large acreages under special conditions.

from coalescing, and serves as the vehicle to carry these fine droplets to their destination.

While special machines are available for concentrate spraying, it is possible to convert a conventional hydraulic sprayer into one for concentrate use by special attachments.

Particularly suited to the requirements of vegetable growers are wheelbarrow and traction sprayers. For large operators there are power sprayers of different types—hydraulic, hydro-pneumatic, blower, and aerosol



Boom on tractor-mounted sprayer shows down-up-under directional spray control.



When needed a crew of workers with hand crank dusters can do an effective job.

generators. These make possible the new farm practice of preharvest spraying of potatoes with defoliant and the application of liquid fertilizers and other plant nutrients.

For smaller areas, the wheelbarrow sprayers offer some of the elements of power spray performance at low cost. In these the pump is operated by hand. Tank size runs from 12 to 18 gallons with pumps developing up to 200 pounds pressure.

In between these two is the traction sprayer in which the pump power is

furnished by the rotation of the supporting wheels. Tanks of these models usually have a capacity of about 25 gallons and develop up to 150 pounds pressure.

Then for spot jobs, there are the small hand sprayers of different types. Equivalent equipment of all these is available for dusting.

Whether to spray or to dust is a question upon which much has been spoken and written. In spraying, it is found that material adheres better to foliage, making fewer applications

necessary. Spraying wastes less material. Also it can be done under weather conditions which make dusting impossible. But dusting, on the other hand, is better for jobs demanding speed. It requires less labor, is more efficient in killing aphids, is less likely to burn tender foliage.

It is impossible to over-emphasize the importance of three factors in successful control of insects and plant diseases: 1) Correct timing; 2) use of the right chemical in correct proportions; and 3) the use of suitable application equipment properly adjusted and calibrated. Each of these factors is valueless without the other.

In regard to timing, the USDA and state experiment stations offer specific recommendations for different crops. They warn that for control

of corn borers, for example, spraying must be done before the insect is entrenched in stalk or ear. Likewise, plant diseases are best controlled by preventive rather than corrective treatment.

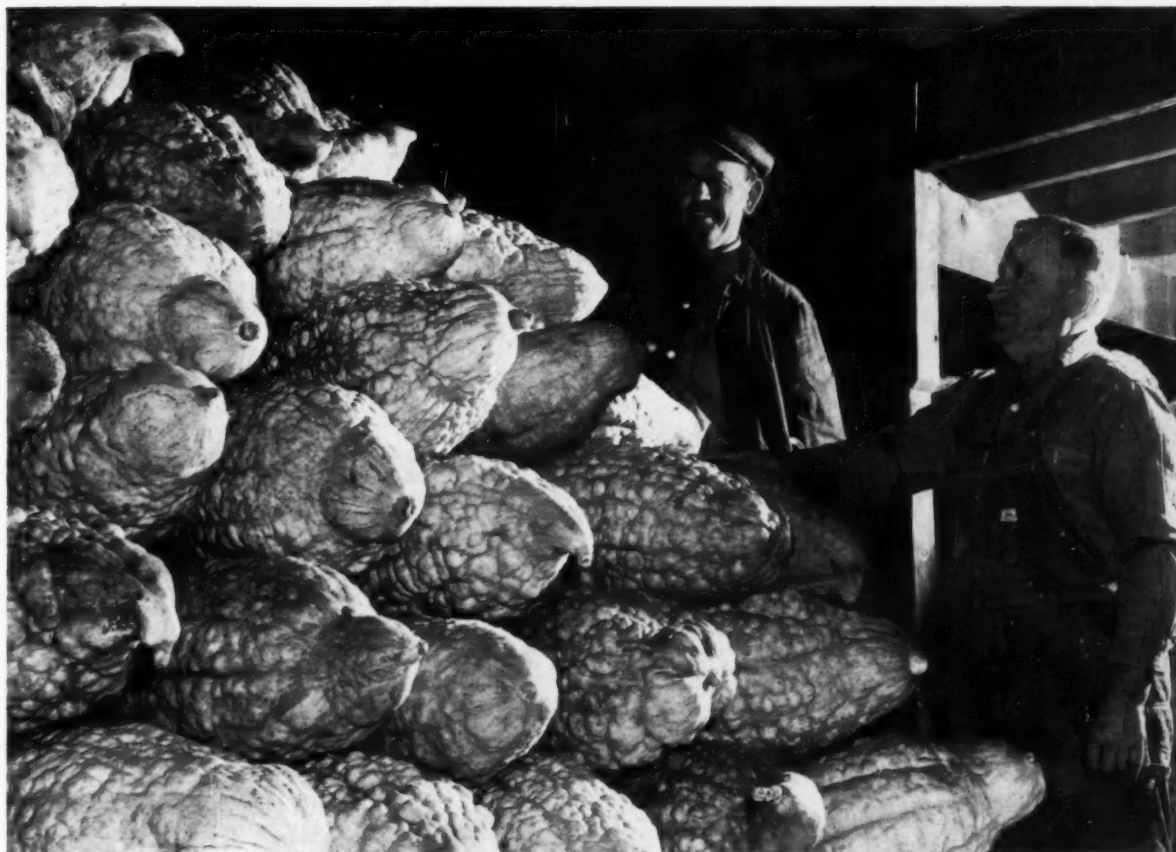
Use of correct chemicals varies so much with crops, location, and other factors that it is well to consult a local dealer, a county agent, or state agricultural college for advice on this question. From these sources also can be obtained information as to proper amounts and timing.

Here is some advice on amounts from the University of Wisconsin College of Agriculture. In a paper on "Vegetable Insect Control for 1953," R. K. Chapman, C. C. Doane, and F. L. McEwen write:

"Unless otherwise stated, dusts should be used at the rate of 30 to 40 pounds and sprays at 100 gallons per

(Continued on page 27)

AMERICAN VEGETABLE GROWER



Sterling, left, and James Colby examine a tier of Blue Hubbard in storage room. Note tier of squash above Sterling's head.

"QUALITY Is Our Motto"

Long range planning and production of quality crops form the foundation upon which the three Colby brothers have built an enviable reputation

By CHARLES L. STRATTON

THERE'S never a dull moment market gardening with the Colby Brothers, James T., George W., and Sterling. It may be a newly developed variety of sweet corn coming in from the fields by the wagonload and destined to create top Boston prices and customer demand. Or Jamaicans carrying giant Blue Hubbards or a bushel of produce on their heads. Or even improving their 1951 New Hampshire Kennebec potato record of 758-bushel per acre average.

The Litchfield, N. H., farm of this trio of brothers covers better than 500 acres of cropland and extends 10 miles on either side of Route 3A. The soil is a deep sandy loam that warms readily in the spring. Unlike most of New England, there is not more than half a dozen acres with stones. Most of the stones are the remains of an old

railroad bed. All rocks are blasted out as soon as they appear.

Keeping the land fertile is one of the many Colby secrets of success.

"Quality being our motto," the three brothers state, "all phases of production and marketing are aimed at this ideal.

More nutrients are put into the land than the crop takes out. This is done through the application of proper fertilizers, sowing a rye crop in the fall for plowing under in the spring, and plowing under crop residues to maintain humus in the soil.

A successful bumper crop is the result of long range planning. Their record-breaking crop of Kennebecs is one example. The Colbys claim the secret of quality in potatoes is new land. Planning ahead in more ways than one, they try to keep as much of

their help as possible employed in the off-season with land clearing operations.

In 1949 they cleared 13 acres of woodland. The first year this was planted to Blue Hubbards. The hills were widely spaced and the ground was worked with a disk or springtooth harrow in order to break up remaining tree roots. The second year a good crop of corn was harvested and the land was then seeded to rye.

After the rye was plowed under in the spring, the Colbys worked in 40 pounds of nitrogen, 40 pounds of available phosphorus, and about 50 pounds of sulphate of potash to the acre. Large seed potatoes were cut by hand into about eight pieces and planted at the rate of 27 bushels to the acre. Hills were spaced nine inches apart in convenient 35-inch rows. At

the same time they put in their own potato mixture of 6.5-10-12 fertilizer at the rate of 1,600 pounds to the acre. They added five pounds of borax to the ton.

The Colbys wage war against insects and fungus diseases with DDT, copper, and other sprays. If the aphids or flea beetles build up, a parathion spray is used. The Colbys claim that thorough spraying with parathion wipes out anything in the line of insects that walks, creeps, or flies in a field of potatoes. Although the Kennebec variety is practically free of blight, the Colby brothers, rather than take a chance, added six copper sprays to their spray schedule.

Other varieties of potatoes are grown in addition to the record-break-

for them. Were they to grow this variety, they would be competing with a better and much higher quality corn coming onto the market from southern areas.

Through long experience these growers have found that 95 per cent of the customers rely on eye-appeal when they make their purchases. The final clincher is taste. Sweet corn with both qualities sells readily. The Colbys like a small cob that has narrow, deep kernels with a tender hull. The varieties grown by the Colbys must stay at peak of perfection longer and must hold their high quality.

Throughout the season the brothers keep sweet corn rolling to the Boston markets. Both the dealer and the customer can depend on Colby quality.



James Colby, left, shows Don Davis of county Production and Marketing Administration good points of his Blue Hubbard squash while George and Sterling Colby look on.

ing Kennebec. In all more than 190 acres of Irish Cobbler, Chippewa, Russett, and Sebago are grown. When the early potatoes are mature, they are harvested, sacked, and marketed. The late potatoes are harvested at the rate of 3,500 to 4,000 bushels a day using a couple of two-row pickers and diggers and a crew of 40 men.

Potatoes are sacked in ordinary burlap bags and trucked to storage bins in the packing house, after which they are unsacked and raised on a bin loader to the top of huge bins and lowered into the bins on canvas baffles to avoid bruising.

Price support for potatoes? Not on this farm. They don't believe in it. Anything below one and one-fourth inches is left in the field. Those not suitable for top markets are sorted out on the binloader for immediate sale to a nearby dairyman for feed.

The raising of sweet corn is quite a program for the Colbys. These growers claim the early small-eared sweet corn doesn't work out too well

To supply this demand for top quality corn, the Colbys test new varieties on their farm. This past season nine different varieties were grown. One of the best in quality is a yellow and white cross called Butter and Honey. It also is expected to be one of the top numbers this year in production and demand.

When it comes to squash, the Colbys have for many years been undisputed kings of the crop. They usually devote over 40 acres to all varieties of squash. Their standby is the Blue Hubbard. Last year they harvested 325 tons of this variety alone. The squash is carefully handled and stacked by hand to avoid bruising and stored in picturesque tiers in the roadside storage plant, surrounded by cool air of low humidity.

The Colbys have been practising seed selection for years. Their present Blue Hubbards are long and meaty, with rough and seamy shells. They do get a few squashes of 70 pounds, but for the most part their

squashes are often somewhat lighter.

The Blue Hubbards are held until February or until the large butternut squash crop is cleaned up. This variety has been found to be highly popular. Jim tells me that the public acceptance of butternut has increased by leaps and bounds the past few years. The Colbys' own variety obtained through seed selection is chunky and square, not crooked and long-necked as are varieties commonly found on the market. Not only does the butternut have customer appeal but it contains more vitamin A than most other varieties of squash.

Whenever the Colbys plant a crop it is usually done in a big way. Many varieties of beans cover more than 30 acres. Another specialty is cabbage, a special type of hard-heading, high-yielding strain of Golden Acre with an eye-appealing color. A number of varieties of mid-season and late cabbage are planted for the regular markets, with a Danish Ballhead for the sauerkraut manufacturers.

One of their recent innovations is a Colby trademark with green lettering on a yellow wrapper. Their trademark is "Vi-Min-Gy Vegetables" and stands for vitamins, minerals, and energy. Their slogan is: "Colby on vegetables is like Sterling on silver."

The Colby label is used only on produce that is certain to be handled by the better distributors and commissionmen as top grade vegetables. Otherwise the label is not attached. That's how these growers of fine vegetables protect their name and quality of produce after it leaves their hands. Hats off to the Colbys, and a mighty fine job.

THE END

NEW SNAP BEAN

SEMINOLE, a new green-podded bush snap bean, is being released to seed producers by the Everglades (Fla.) Experiment Station. About 2,000 pounds of seed, some produced in Idaho, are being released. Producers are expected to have seed available to growers in another year.

Seminole has been developed by Emil A. Wolf and Walter A. Hills at the Everglades Station. In Florida yield trials during the past two years, Seminole has equaled or significantly outyielded the standard Tendergreen variety.

The new variety is a green, round podded, Tendergreen type bush bean highly resistant to strains of rust common in Florida and resistant to mildew and common mosaic. The plants grow to about the same height as Tendergreen with rounded, smooth, more attractive pods than Tendergreen and averaging one-fourth to one-half inch longer. They mature two to three days later than Tendergreen.

AMERICAN VEGETABLE GROWER

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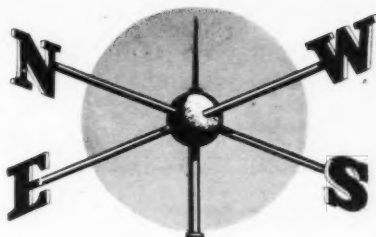
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NEWS

- **California Tomato Growers Slash Acreage to Maintain Price**
- **Several New Vegetable Varieties Are Introduced**

OHIO—The recent Columbus convention of the Ohio Vegetable and Potato Growers Association was attended by over 500 persons. In addition to an outstanding display of machinery and supplies there were talks by Ohio and out-of-state staff members and grower panel discussions. The next convention will be held in Toledo the first week of February, 1954.

The officers and directors elected at the annual business meeting are as follows: President, Ferris Owen, Newark; first vice president, Clint Seitz, Cincinnati; vice president truck crops, Leonard Bettinger, Swanton; vice president potatoes, Eldon Studebaker, New Carlisle; vice president greenhouse, Vern Kraushaar, Brooklyn Heights; secretary, V. E. Keirns, Columbus; associate secretary, E. C. Wittmeyer, Columbus; treasurer, C. E. Babbert, Columbus; and three directors, E. B. Wright, Toledo, Willard Breon, Coshocton; and Andrew Rosbough, Berea.

CALIFORNIA—The tomato acreage is way down in California. Last year this state grew 112,900 acres of tomatoes and farmers got \$25 a ton. This year they told the processors they wanted \$25 a ton again and said to get that figure they would drastically reduce acreage. They kept their word and cut the acreage to 72,392 acres. The contract prices have been ranging from \$22.50 to \$23.50 per ton.

A bulletin just issued by the University of California and available from your farm advisor's office is entitled, "Should I Use Sprinklers for Irrigating Vegetable Crops?" It gives both the advantages and disadvantages of sprinkler systems and their effect on soil and crops, together with costs.

MAINE—E. L. Newdick, long-time chief of the Maine Department of Agriculture's Division of Plant Industry, has been elected to honorary life membership in the Potato Association of America for "outstanding contributions to the advancement of the potato industry."

Mr. and Mrs. Newdick have been invited to attend a Recognition Banquet during the annual meeting of the Potato Association at the University of Wisconsin next September.

Mr. Newdick, who has been chief of the Division of Plant Industry for 32 years, is a past president of the potato association and is now serving on its potato certification committee.

TEXAS—A disease-resistant variety of cream peas, designated as Texas Cream 12, is now ready for distribution to seed growers. Foundation seed may be obtained in 50-pound bags at 50 cents per pound from the Foundation Seed Section, Department of Agronomy, College Station, Texas. Texas Cream 12 is a distinct

bush-type plant, the result of a breeding program initiated at the Tyler station several years ago, using a resistant California blackeye and good local varieties as parents. It will produce well on either disease-free or disease-infected soil.

ARKANSAS—Tests have revealed that the best time for setting out tomato plants in northern Arkansas is around the last of April or first of May, when danger of frost is past. In southern Arkansas these dates would be two to three weeks earlier. Dr. V. M. Watts, horticulture department head, and C. V. Hall, research assistant at the Arkansas Agricultural Experiment Station have given these dates as the result of a five-year experiment. Over this five-year period early setting produced average yields of 5.1 tons per acre, as compared with 2.4 tons for late-set tomato plants.

NEW YORK—A new weed killer, Alanap-1, will save much of the expensive hand labor required in weeding vine crops such as watermelons, squash, muskmelons, pumpkins, and cucumbers

this year, says Prof. R. D. Sweet of Cornell's agricultural experiment station, Ithaca. It should be applied on germinating weed areas only since it will not kill established weeds. For most growers this period will be during the first week in June. It should be applied at the rate of four pounds an acre, mixed with 30 to 100 gallons of water.

Storing celery at a temperature of 32° with high humidity will prevent much of the "pitting" that has caused many New York growers heavy losses in recent years, scientists at Cornell's agricultural experiment station have found. Losses ranging up to \$10,000 to a single grower have been reported from celery pitting, a condition in which some of the surface cells of the stalk break down, causing pits to appear. More pitting occurs in green celery than in white.

Farmers who operate or plan to operate labor camps to house farm workers this season may expect to be required to comply strictly with all health and labor regulations governing the operation of such camps.

The State Health Law requires that



VEGETABLE LEADERS ON THE JOB—Aggressive leadership is as important to an industry as it is to a farm enterprise. Vegetable leaders Lee Towson, Jr., president of the Vegetable Growers Association of America, left, and past president Walter F. Pretzer, right, present their views directly to Ezra Taft Benson, Secretary of Agriculture. Vegetable industry's firm determination to stand on its own feet without government handouts or subsidies has received the praise of

government leaders including President Eisenhower, who expressed admiration to vegetable growers for "padding their own canoe." In the photo above Towson and Pretzer told the Secretary of Agriculture of the vegetable industry self-help program and expressed the view of the VGAA that the same program in other parts of the national economy would save millions of dollars in tax money. Money thus saved would increase demand and help private business.

CALENDAR OF COMING MEETINGS AND EXHIBITS

June 11-13—Idaho Shippers Association (including Malheur County, Oregon) annual summer meeting, Sun Valley, Idaho. Association headquarters: P.O. Box 1100, Edd Moore, Sec'y-Mgr., Idaho Falls, Idaho.

June 13—New Jersey State Horticultural Society Field Day and Tour at Rutgers University. Assemble at 10 A.M. at Vegetable Farm on Ryder's Lane between State Highway 130 and Milltown. Reservations for bus tour must be made in advance. Arthur J. Farley, Sec'y, New Brunswick.

July 30-31—Annual Potato Field Day, Pennsylvania Co-operative Potato Growers' Assn., Camp Potato Experimental Farm, U.S. Route 6 between Galeton and Coudersport in Potter County.

Aug. 6—Empire State Potato Club summer field day, Schuler's Farms, Inc., Cato, N. Y. Phil Luke, Chairman, Trade Show Committee, R. 3, Fulton, N. Y.

Aug. 12-14—Ohio Pesticide Institute annual tour. Originates at Ohio Agricultural Experiment Station, Wooster, and ends at Northwest Test Farm, Hoytville. J. D. Wilson, Sec'y, Wooster.

Sept. 23-25—Florida Fruit and Vegetable Association annual meeting. Casablanca Hotel, Miami Beach. Association headquarters: 4401 East Colonial Drive, Orlando, Fla.

Oct. 4-10—Produce Prepackaging Association 3rd annual conference and exposition, Chase Hotel, St. Louis, Mo. Association headquarters: 1250 East Main St., Stamford, Conn.

Oct. 5-7—Texas Citrus and Vegetable Growers and Shippers convention, Shamrock Hotel, Houston, Texas. Association headquarters: 306 E. Jackson St., Harlingen, Texas.

Nov. 10-12—Western Growers Association annual meeting, Hotel de Coronado, Coronado, Calif. Association headquarters: 606 South Hill, Los Angeles 14. C. B. Moore, Exec. Vice-Pres.

Nov. 30-Dec. 4—Vegetable Growers Association of America annual convention. Chase Hotel, St. Louis, Mo. Convention exhibits and arrangements: Dr. H. D. Brown, VGAA Sec'y, Ohio State University, Columbus 10, Ohio. Publicity: Max Chambers, Preston, Md.

Dec. 6-10—National Junior Vegetable Growers Assn. annual convention, Tulsa, Okla. Write Prof. Grant Snyder, Univ. of Mass., Amherst, for data.

Dec. 10-11—Iowa State Vegetable Growers' Association 40th annual convention, Hotel Hartford, Mason City, Iowa. C. L. Fitch, Sec'y-Treas., Ames.

every farmer or other person housing 10 or more persons in a camp must obtain a permit every year from the county health department at least 15 days before the workers arrive at his camp. Any farmer who permits 10 or more persons, including women and children, to live on his property without a camp permit is in violation of the law.

In addition to being subject to severe penalties and fines, the health law provides that the health department can prohibit the use of any building for the housing of workers for which a permit has not been secured.

The state law also requires that any farmer or other person employing 10 or more out-of-state workers or who brings 10 or more migrant workers into the state is required to register with the Division of Industrial Relations, N.Y.S. Labor Department, Albany.

SOUTH CAROLINA—Planting of pimiento peppers will be virtually doubled this year in upper South Carolina and western North Carolina, Ben E. Gramling of Gramling, member of the pioneer Gramling peach family, reported. Spartanburg county planting, for example, is moving up to 300 acres this season against some 75 acres last year. Contract purchase price for Piedmont pimientos has been increased from \$80 per ton last year to \$100 per ton for 1953 production.

OKLAHOMA—A new red-skinned, golden-fleshed sweet potato of the moist or "yam" type is being released by the Oklahoma Agricultural Experiment Station for commercial production in 1953. Its name is "Redgold." Its dark-red, smooth skin gives it a highly attractive market appearance, and from the grower's standpoint it has the advantages of high yields of No. 1 quality roots plus tolerance to stem rot wilt. Yield of No. 1 roots from Redgold has averaged 244 bushels per acre over the past four years in unirrigated trials at the Kiamichi Field Station, Idabel, and the Vegetable Research Station at Bixby. In these same tests Allgold averaged 185 bushels per acre and Unit No. 1 Porto Rico 128 bushels.

In an irrigated trial at the Oklahoma Irrigation Station in 1952, yields of No. 1 roots of these three varieties were: Redgold, 344 bushels per acre; Unit No. 1 Porto Rico, 315 bushels; and Allgold 234 bushels.

The high yields of Redgold appear to be associated with tolerance of wilt and ability to come through under widely varying soil and climatic conditions.

MICHIGAN—Dr. Paul M. Harmer, world pioneer and authority on management of muck soils for vegetable crops, retires from Michigan State College this June. Dr. Harmer's 32 years' work in Michigan dealt with reclamation and management problems of muck land, particularly problems in drainage, wind, and frost control, soil acidity, fertilization, and growing adapted varieties. His original research with plant nutrients, copper, manganese, boron, zinc, and sodium, will long be cited by professional workers.



Veril Baldwin, Jackson farmer, presents a check for \$2,200 which was a gift from Michigan's muckland farmers, to Dr. Paul M. Harmer, extension specialist in soil science at Michigan State College who is retiring in June. Mrs. Harmer is on the right. Dr. Harmer was the guest of honor at a dinner on May 26 at Kellogg Center where 150 muckland farmers and friends paid tribute to him for 32 years of service.

AMERICAN VEGETABLE GROWER

Many onion, celery and carrot growers, both in Michigan and neighboring states, owe considerable of their success with these crops to his unusual ability to diagnose correctly practices to follow and fertilizers to use on temperamental muck soils.

Dr. Robert E. Lucas, an experienced muck farm operator and manager, will succeed him.

LOUISIANA—A boon to growers who want a wilt resistant watermelon is the new Calhoun Sweet, a Black Diamond type, introduced in 1951 by Chester Taylor, horticulturist at the North Louisiana Experiment Station, and Lynn Hawthorne of the L.S.U. Experiment Station.

The fruit of this variety is medium large in size, oval to nearly round. The rind is of medium thickness, not nearly as tough as that of Black Diamond, and lighter green in color. The flesh is very bright red, of tender, fine texture and excellent quality.

Calhoun Sweet is an excellent variety for wilt-infested soil and for local markets. It is not as good a shipper as the Black Diamond, but if packed right, it can be trucked. It is very prolific and is noted for its early production. Seed of this variety is available from wholesale seed stores in Louisiana.

Seed treatment to control seed-borne diseases of watermelon is simple, but necessary. Before planting seed, place it in a glass jar, add one level tablespoonful of cuprocid or spergon for each pound of seed. Shake the jar until the seed are well coated with the chemical, then screen off excess dust.

NEW HAMPSHIRE—Experiments at the University of New Hampshire have proved that tomato plants started from seed no earlier than May 1 and set out after the first of June in warm, rich soil will produce bushels of fruit. It has been the custom in this state to plant tomato seeds early in order to have a big strong plant to set out the last of May. But such plants often are subject to such setbacks as the hardening process, cold weather, or trying to produce fruit and growth at the same time, and plants that have suffered one or more of these setbacks will seldom bear more than several tomatoes per plant.

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ANNUAL
CONVEN

The 45
Vegetable

JUNE, 1953

Let's Promote VEGETABLES

AUTOMOBILE EMBLEM PROTECTS VGAA MEMBERS

An automobile emblem for use on trucks of growers to identify them as members and thus protect them against unwarranted labor agitators is being supplied by the Vegetable Growers Association of America. The 4x11¼-inch aluminum disks are fluorescent and very durable. They are available to members of VGAA at \$2 per emblem.

This is only one of the advantages of being a Green Thumb member in the National Vegetable Growers' organization. Other services include:

A news letter—the Vee Gee Messenger—which was originally established as a grower contact publication for less than a thousand top leaders, but which has grown into a national publication for all VGAA growers and has a circulation of over 6,000 with 32 national advertisers.

The Annual Report which has

America, Inc., will be held at the Chase Hotel in St. Louis, Mo., November 30-December 4, 1953. The prospectus showing location of exhibit space and information regarding shipping of exhibits, charges, and hours is now ready for growers and manufacturers.

Correspondence regarding the exhibition and application for space and advertising should be addressed to H. D. Brown, Secretary, Vegetable Growers Association of America, Inc., Department of Horticulture, O.S.U., Columbus 10, Ohio. Dr. Brown and William Schmittel, Jr., of Robertson, Mo., are co-chairmen of the exhibition and display committee.

A feature which will glamorize the convention will be the selection of the national vegetable queen. The accompanying photograph shows Missouri's vegetable queen for 1953, Miss Jane Boenker, daughter of Mr. and Mrs. Edward Boenker, Robertson,



Vegetable Queen of Missouri, 19-year-old Miss Jane Boenker of Robertson.



Automobile emblem now available to VGAA Green Thumb members for use on trucks.

through many years been recognized by national leaders in industry, education, and government as the most valuable reference book in its field.

Insurance for one person (this is a \$1,000 "paid up" casualty insurance policy with 24 hours unrestricted coverage for 12 months); and the privilege of covering each of your employees for an additional fee of \$3 per month.

For further information on how to become a Green Thumb member of the VGAA write to H. D. Brown, secretary, Vegetable Growers Association of America, Inc., Horticulture Department, O.S.U., Columbus 10, Ohio.

ANNUAL VGAA CONVENTION

The 45th annual convention of the Vegetable Growers Association of

Mo., who was chosen on May 2 at Creve Coeur. Miss Boenker will compete for national honors with other state queens. During National Vegetable Week—July 30-August 8—and during their entire reign vegetable queens actively promote the vegetable industry and vegetable consumption.

FOREIGN TRADE

"For every dollar of domestic production, we import only three cents worth and we export only four cents of goods," according to Harold F. Linden, assistant secretary for economic affairs, Department of State, as reported in a recent news letter of the VGAA.

He states further: "On the surface, it might appear that there was no need for Americans to worry very much about exports or imports. The

fact is that critical parts of our economy are geared to doing a substantial amount of business with foreign countries. This is especially true, as you know, in the field of agriculture. We sell a great deal of cotton, wheat, tobacco and rice overseas (just under 40 per cent)." If the export business dries up the acreage released (60 million) goes into the production of domestic crops, i.e., truck farming, etc. Thus all segments of agriculture are interested in exports as well as imports, comments the VGAA.

The solution of the export-import problem is most difficult and the present attempt of Congress and the President to solve the problem is merely a continuation of efforts started many years ago.

Thurston B. Morton, assistant secretary of state recently (April 17) made a few observations of interest. They are partially summarized by the VGAA as follows:

1) Tariffs are now the lowest in our history.

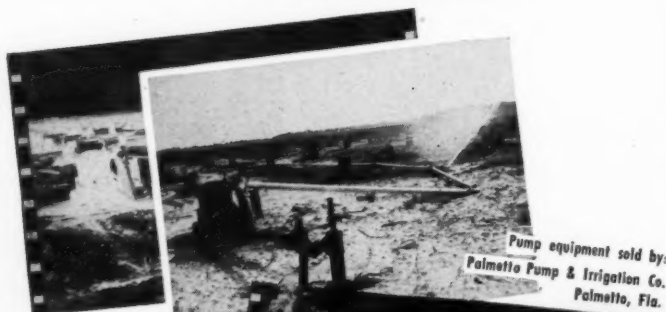
2) If we try to keep American markets for our produce, foreigners are going to keep theirs for their products.

3) Our workers, thanks to technology, are able to produce products at a lower cost per unit even though wages per hour are higher.

4) Thirty-eight bills have been introduced this session of Congress to cut imports from abroad.

ACTION proves **MARLOW PUMPS** are the **BEST**

... for farm sprinkler irrigation
... for general service



Another specialized job for **MARLOW PUMPS**
to handle!*



**Sprinkler irrigation
of a newly planted nut grove in Florida*

Here is a Marlow Irrigation Pump doing an outstanding job of supplying water at high pressures to a portable sprinkler irrigation system. It is another example of the versatility of the

Marlow pump unit and shows its adaptability to a wide range of working conditions. The consistent performance of a Marlow Sprinkler Irrigation pump places the farm on a production line basis by bringing crops to harvest on a timed schedule. As drought insurance they can't be surpassed.

Dependable pumping, more economies, and better performance ...

Marlows are essential pieces of farm equipment.

For the right pump for the tough job, rely on Marlow.

Available in a wide range of models. Sizes 2 to 8 inches. Capacities 50 to 2200 GPM; pressures 30 to 200 PSI.

Powered by gasoline or Diesel engines. Can be coupled directly to electric motors or adapted for belt drive from auxiliary power plant.

Marlow Irrigation Pumps are preferred by most farmers, for many types of farm work. They are built better, to do the job better.

Today ... see your nearest Marlow Distributor for facts, figures, and specifications—or write to:

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RIDGEWOOD, NEW JERSEY

Branch Plant: De Queen, Arkansas.

Other factories in France and England. Distributors and Dealers everywhere.

EXTENSIVE BREEDING PROGRAM AT RHODE ISLAND

**A watermelon and a tomato
are recent developments**

THE Peckham Farm at the University of Rhode Island in Kingston is an interesting place for vegetable growers. Dr. Desmond Dolan, assistant professor in horticulture and research is in charge of the five acres of vegetables covering all types of experiments of interest to vegetable growers.

One of the greatest developments for which this experiment station is becoming known is the new Rhode Island Red watermelon. This melon is Dr. Dolan's own development. Back in 1942 he started searching for an early maturing commercial watermelon that could be grown in Rhode Island.

Through extensive research and hard work, Dr. Dolan finally perfected his new watermelon in 1950 and sent seeds out for trial. A year later a seed company asked permission to increase the seed, and this year the seed is expected to be sold in large quantities.

The Peckham Farm raises a little over one-half acre of watermelons on a test basis. The new Rhode Island Red perfected by Dr. Dolan averages 10 to 12 pounds in weight, matures early in a quick 82 to 83 days (varying according to climate), has a dark rind with less conspicuous green stripes than other varieties, and is the only red-fleshed melon in its class. Another important feature is its tough rind which will stand rough treatment and shipping.

New Tomatoes

Last season the Peckham Farm had over 5,000 tomato plants undergoing experiments. The two main things looked for are uniformity of ripening and the earliest variety resistant to cracking. This uniform ripening is a big factor in their tomato tests.

Experimental seed was sent to an Ontario experimental station for tests, and the report came back that 10 tons of tomatoes were picked to an acre from this seed. It was selected as one of the best for home gardens in Canada. The new tomato is the result of fifth generation cross of Bounty and Valiant. It is uniform ripening, resistant to cracking, very vigorous, and fruits heavily.

More will be heard in the future about Dr. Dolan and the other experiments on which he is working, prin-

AMERICAN VEGETABLE GROWER



Dr. Desmond Dolan shown in University of Rhode Island melon patch with one of the Rhode Island Red melons he developed, an early maturing variety that ships well.

cipally watermelons, muskmelons, cucumbers, tomatoes, and eggplant. But he claims there is one blight which scientists can never cure and that is finger blight. University melons are affected by it every year. That's another name for youngsters stealing ripe melons. The life of a horticulturist is thus made still more difficult, and often a hungry youngster can disrupt years of work.

SOIL CONDITIONER TESTS

TESTS which rate the effectiveness of 16 commercially available synthetic chemical soil conditioners in stabilizing soil aggregation have been completed by the Doane Agriculture Service and the Agricultural Institute of St. Louis. A report which summarizes the results of these tests may be obtained by writing Doane Agricultural Service, 5144 Delmar Blvd., St. Louis, Mo.

The tests were made on a plot of land in the Florissant Valley near St. Louis. The soil was a silty clay loam showing a little more than 20 per cent clay size. The area was surveyed and staked for application of the 16 soil conditioners and for check plots, and the chemicals applied in accordance with the manufacturer's specifications.

Advertisers will be glad to send you details of their products. Be sure to mention **AMERICAN VEGETABLE GROWER** when you write.

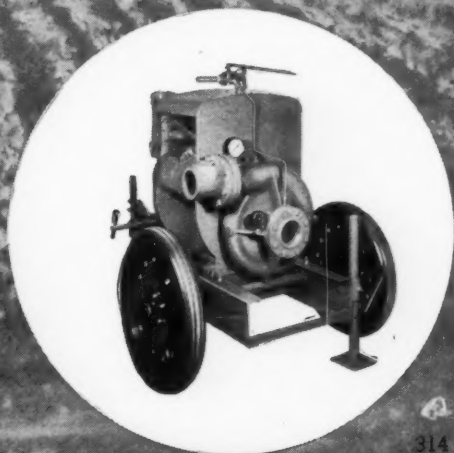
for Sprinkler Irrigation MORE PEOPLE BUY MARLOWS than any other Engine-Driven PUMP

Marlow Pumps are the first choice of FARMERS . . . FRUIT AND MARKET GROWERS . . . RANCHERS . . . DAIRYMEN . . . because Marlows meet all Sprinkler Irrigation needs and last longer.

Broad selection, more dependable design, low maintenance, high efficiency, low fuel consumption, long life, and better distribution and service facilities are but a few of the reasons why Marlow Engine-Driven Sprinkler Pumps outsell all others!

Marlows are versatile too. They can be used for sprinkler irrigation, fertilizing, spreading insecticide, fire control, stock and equipment water supply, vegetable washing, drainage, disposal of waste waters, and many other farm chores.

For dependable, low-cost operation, Marlows are your best buy. For complete information see your Marlow dealer or write for "Marlow Sprinkler Irrigation Pumps" bulletin SI-53.



Marlow builds a complete range of sprinkler irrigation pumps in sizes from 1½" to 5" with capacities from 50 to 2200 GPM and pressures from 30 to 200 PSI. Available either gasoline, LPG, or diesel engine driven, base or wheel mounted. Also arranged for belt or electric motor drive.

MARLOW PUMPS

Other factories in France and England.

RIDGEWOOD, NEW JERSEY

Branch Plants: DeQueen, Arkansas
West Chicago, Illinois

Distributors and Dealers everywhere

NEW FOR YOU

—to increase your profits

Wheel-Trac



Wheel-Trac irrigation is providing an answer to one irrigation problem with its portable sprinkler system which can be towed intact from one setting to the next. Growers have moved one-quarter mile or more of lateral line and put this line back into operation in seven to 10 minutes. This saving of time and labor is making Wheel-Trac popular in the large vegetable fields of California. Standard portable sprinkler irrigation systems must be uncoupled, moved manually, and then reassembled at the next setting.

The mechanized sprinkler irrigation equipment is the result of field research testing begun in 1945 by sprinkler specialists on the West Coast. It has automatic drain valves and other features attractive to large vegetable growers. For more information write Henry Sander, Jr., Farmland Irrigation, Inc., P.O. Box 1133, Fresno, Calif.

Designed for Irrigation



Vegetable growers have been on the lookout for a motor designed for irrigation work. The General Electric Tri-Clad is made in sizes from $\frac{3}{4}$ h.p. to 5 h.p., and its Tri-Clad construction provides protection from operating wear and tear. General Electric Co., Schenectady 5, N. Y., will be happy to send you details.

Bolens Versatility



Profitable vegetable production depends upon all of the "know-how" and use of the most efficient tools and equipment. All growers must reduce labor costs if profit margins are to remain satisfactory. Bolens garden tractors and attachments are designed to give the maximum service at the lowest possible cost. The photo above is not a vegetable operation but it does demonstrate versatility of Bolens equipment.

This new Bolens roller can be attached quickly to any model of Bolens power-packed tractor line or the roller can be pulled by hand. The adjustable handle on the roller makes each trip easy. It would be well worth your while to write to James Boyce, Bolens Products Div., Food Machinery and Chemical Corporation, Port Washington, Wis., for free information on this unique roller and the many other Bolens vegetable attachments and tractors which are available to you.

Time and Cost Savers

If we can move vegetables more quickly, efficiently and with less cost, our entire operation will result in greater profits at the end of the year. In a recent field trip we were impressed with the number of conveyors being used by efficient and profit-minded vegetable growers in the Middle West. It occurred to us, therefore, that we should present to you a booklet entitled "Modern Time and Cost Savers," which includes information on 11 standardized conveyor units. This booklet may answer a lot of questions you have been asking yourself regarding the use of conveyors in your vegetable operation. If you want a free copy just write Irene M. Carlson, Standard Conveyor Company, North St. Paul 9, Minn.

Triple Sales



If another vegetable grower tells me it works I am pretty apt to listen. R. E. Adams, well known New Jersey potato grower, has tripled his sales by means of the Vent-Vu bags. These new bags are made with two layers of wet strength paper. A special moisture resistant adhesive binds the mesh strands between the paper walls, making the mesh window an integral part of the bag.

That Vent-Vu has proven itself is indicated by the fact that last year Mr. Adams marketed seven and one-half million pounds of potatoes in them. The bag lends itself well to packaging operations — Mr. Adams packs around 2,000 10-pound Vent-Vu bags an hour. The bags come in five-, 10-, and 15-pound sizes which can be attractively printed with your name and trademark in four colors. May I suggest that you write Tom Freston, Union Bag & Paper Corp., 233 Broadway, New York, N.Y.?

How to Pack



Many growers are asking which is the best pack for me? Just the other day we saw a booklet which answers many packaging problems. This free booklet contains 32 pages of good ideas, and if you will write Paul Meelfeld, The Hinde & Dauch Paper Company, 407 Decatur St., Sandusky, Ohio, the booklet will be sent to you.

AMERICAN VEGETABLE GROWER

HOW TO APPLY UREA

Methods of application
include: dry form, in solu-
tion, and as foliage spray

A LOT of questions have been asked about the chemical urea or Nugreen for sidedressing vegetables. Prof. John Carew and W. C. Kelly of Cornell's vegetable crops department at Ithaca, N.Y., say that many growers are confused about its use and value, and they offer some facts on this new 46 per cent nitrogen fertilizer.

There are three general ways to apply it, the first being to apply it dry to the soil but in smaller amounts than the usual ammonium nitrate of soda sidedressing because of its higher nitrogen content.

The second method is as a solution to the soil, in irrigation water or by sidedressing attachments. Six pounds will dissolve in a gallon of water and 10 gallons are needed per acre to supply the same amount of nitrogen as 100 pounds of ammonium nitrate. Since urea at this rate will burn vegetable leaves, plant tops should be washed off after irrigation applications.

The third method of applying urea is as a foliage spray, commonly at five pounds per acre. It is most practical when included with insect or disease control sprays that give it a "free ride."

"Our recommendations boil down to this," says Carew. "For crops not ordinarily sprayed, we believe soil applications of nitrogen sidedressing materials will be most practical. For crops under a regular spray schedule, Nugreen in the spray may often be worthwhile."

He also pointed out that the need for nitrogen determines the degree of usefulness of Nugreen—if the plants need nitrogen, Nugreen will help.

PESTICIDE GUIDE

THE "Vegetable Dust and Spray Guide" can be had by writing to the Niagara Chemical Division, Food Machinery and Chemical Corporation, Middleport, N. Y., by whom it is published. This is a valuable booklet for the vegetable grower for it suggests the kind of dust or spray to be used for different insects or diseases on various vegetable crops, gives the quantity per 100 gallons, and the method of treatment.

JUNE, 1953

HERE'S A COMBINATION You've Been Looking For



FROM POMOLOGY TO OLERICULTURE*

*The culture of edible vegetables.

The AMERICAN FRUIT GROWER with 70 years experience in fruit production is entering the vegetable field with a new magazine entitled, AMERICAN VEGETABLE GROWER. We will offer vegetable growers the same counsel and guidance that the fruit growers have enjoyed down through the years.

The articles in AMERICAN VEGETABLE GROWER will be written by the Nation's best authorities on vegetable production. We will cover:—Soils, Fertilizers, Conditioners and Fumigants—Seeds and Plants, particularly new strains and varieties for increased production—Insect and Disease Control with emphasis on the new organic materials for better control and larger yields—Sprayers and Dusters for easier application of Insecticides and Fungicides—Consumer Packaging for greater profits. Merchandising helps to develop new sales outlets. These and many other features are planned for early issues of AMERICAN VEGETABLE GROWER.

FOR A LIMITED TIME WE ARE OFFERING A SPECIAL LOW COMBINATION CHARTER DISCOUNT

Here's the deal—The regular subscription rate for AMERICAN VEGETABLE GROWER is \$1.00 for one year, \$1.50 for two years and \$2.00 for three years. The rates for AMERICAN FRUIT GROWER are the same.

For a limited time, we will accept one-year combination charter subscriptions at the special price of \$1.50 for both AMERICAN VEGETABLE GROWER and AMERICAN FRUIT GROWER. In addition we will send you FREE OF CHARGE our Compatibility Chart for Insecticides and Fungicides, which has been reprinted in three colors on heavy board suitable for mounting. Or, if you like, we will enter a two-year subscription to AMERICAN VEGETABLE GROWER at the special price of \$1.00 and also send you our new Compatibility Chart.

Special Introductory CHARTER OFFER

The AMERICAN VEGETABLE GROWER, Willoughby, Ohio

- () Enclosed is \$1.50 for a one-year subscription to THE AMERICAN VEGETABLE GROWER and AMERICAN FRUIT GROWER. Also send me your latest Compatibility Chart.
- () Enclosed is \$1.00 for a two-year subscription to AMERICAN VEGETABLE GROWER, and send me your latest Compatibility Chart.

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Address

City State

Kind of crops grown Acreage

Use Irrigation: Yes () No () Operate own Packing Shed: Yes () No ()

Offer good only in U.S.A.

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LE GROWER

Books for Your Home Library

ONION GROWING by Donald Comin. A complete treatise on production, storage, and marketing of the different forms and varieties of onions are contained in its illustrated 170 pages.\$2.50

THE VEGETABLE GROWING BUSINESS by R. L. Watts and Gilbert S. Watts. Seed supply, methods of planting and irrigating, insect and disease control, sites, equipment, and markets are a few of the many topics discussed thoroughly in this 569-page, profusely illustrated book.\$4.00

DESTRUCTIVE AND USEFUL INSECTS by Metcalf, Flint, and Metcalf. An up-to-date and complete book on insect identification. Contains valuable descriptions and photographs of the many different insects in its 1,071 pages.\$10.00

PLANT DISEASE HANDBOOK by Cynthia Wescott. Well organized book for easy identification of plant diseases. An index makes reference easy. The 746 pages contain numerous drawings and photographs.\$8.50

IRRIGATED SOILS: THEIR FERTILITY AND MANAGEMENT by D. W. Thorne and H. B. Petersen. A well illustrated book which covers such topics as evaluating land for irrigation, irrigation practices for various crops, and drainage in its 288 pages.\$5.00

VEGETABLE GROWING by James S. Shoemaker. Discusses individual vegetables, time and depth of planting, harvesting, and marketing. Every vegetable grower should have this 515-page, well-illustrated book in his library.\$6.00

FARM MECHANICS TEXT AND HANDBOOK. An encyclopedia of shop and mechanical jobs for the farm. Information on tools, machinery, motors, wiring, and painting are contained in its 774 pages.\$4.50

FARM TRACTOR MAINTENANCE by Morrison. An illustrated book on how to prevent trouble and how to locate it if it does occur.\$2.80

PRINCIPLES OF WEED CONTROL by Gilbert H. Ahlgren, Glenn C. Klingman, and Dale E. Wolf. Gives practical answers to basic problems of weed control and discusses chemicals used. The book contains 368 pages and is well illustrated.\$5.50

Books sent postpaid on receipt of check or money order.

AMERICAN VEGETABLE GROWER
Reader Service Department
Willoughby, Ohio



Mist concentrate sprayer for row crops, designed and built at Cornell University.

NEW MIST CONCENTRATE SPRAYER

Airblast application promises to be an effective way of spraying row crops

A NEW type of mist concentrate sprayer for the application of insecticides and fungicides to row crops has been designed and built through the co-operative efforts of the departments of agriculture engineering, entomology, and plant pathology at Cornell University, Ithaca, N.Y. From experimental work conducted during the past two seasons, this machine, completed in July of 1951, has shown considerable promise in the control of several pests, say entomologist James L. Brann, Jr., and agricultural engineer Wesley W. Gunkel.

With this type of application, an air blast is used to carry the spray liquid to the plants as a finely divided mist. The fine droplets are deposited on the plants in a stippled type of deposit instead of a continuous film as in dilute spraying.

Inasmuch as air is the principal carrier of the material, much less liquid is needed per unit of plants treated. Thus the concentration of the toxicant in the liquid is increased to compensate for the smaller amount of water applied.

This method of application has been shown to be very effective in the control of pests on fruit, and is being widely accepted by fruit growers because of the savings it offers in time, labor, and materials.

More work remains to be done, however, say the research workers, to determine the part that mist concentrates in general, and this machine in particular, are to play in the control of row-crop pests. To

date excellent control of several insect and disease pests has been obtained by using five to 10 per cent as much liquid per acre as is used in dilute spraying.

The machine is compact, easily maneuvered in small fields, has no boom or other projections, and has been operated experimentally for two years with no mechanical breakdown. It handles wettable powders up to 150 pounds per 100 gallons as easily as it does solutions and emulsions, without clogging the nozzles or causing undue wear on any of the component parts.

If this piece of equipment controls plant diseases under severe conditions as well as it has the pests against which it has been tested, it may offer growers an effective and efficient way of treating their row crops for pest control.

NATIONAL POTATO AND ONION COMMITTEE

AN interesting report on the National Potato and Onion Committee is available while the supply lasts from C. L. Fitch, Secretary, Iowa State Vegetable Growers' Association, P.O. Box 357, Ames, Iowa. Forty growers comprise the committee which has as its objective the job of getting a better set of potato and onion varieties for the United States. The committee has never held a meeting although various members frequently go to Washington on behalf of potato and onion variety research.

AMERICAN VEGETABLE GROWER

SPRAYING AND DUSTING PRACTICES

(Continued from page 16)

acre. By using the regular amounts of the insecticides to the acre, applications at the rate of 25 to 50 gallons per acre with conventional, high-pressure sprayers and 10 to 25 gallons per acre with low-pressure sprayers have given excellent control of insects on potato, bean, cabbage, carrot, and lettuce. Control of onion thrips, however, has not been quite as satisfactory with the low-gallonage applications as with the more conventional methods."

When it comes to application, simple engineering rules will enable the user to get precision results. Nozzles are of prime importance. The nozzle controls volume, spray pattern, and droplet size.

But even with the right nozzle it is necessary to consider other factors to be sure the right amount of spray falls on the crops. The basic rules are these: The gallons per acre applied on a field depend upon 1) the forward speed of the sprayer and 2) the number of nozzles, their location, and the rate of discharge.

The importance of forward speed can be readily appreciated. If it is doubled, for example, the nozzles will

have only half the time to deliver their spray in traveling a given distance, and the gallons applied in the given distance will, therefore, be cut in half. For extensive spraying, a tractor speedometer is recommended. It can be regarded as insurance against the extra cost and possible damage of over-dosing and the ineffectiveness of under-dosing.

Assuming a fixed number of nozzles on a sprayer, the rate of discharge can be changed by increasing or decreasing sprayer pressure within certain limits, or by using nozzles,

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nozzle tips, or discs with higher or lower capacity.

Check Sprayer Performance

When all these factors have been determined, it's a good idea to calibrate or check the sprayer to determine its actual performance in the field. This is the way you do it:

1) Set two stakes 40 rods apart (660 feet).

2) Fill sprayer tank with water; be sure pipes or hose lines are full.

3) Drive sprayer a round trip between stakes (80 rods total) at the desired speed with the sprayer in full operation.

4) Carefully measure the amount of water required to refill the tank after the test.

5) Multiply gallons used to refill tank by 33 and divide by width sprayed in feet. This gives gallons per acre applied.

Use of sprays and dusts is rapidly bringing under control one of the threats to human security that once seemed most unpreventable—insect attacks. The grower who does his part in turning back the invading insect forces is helping to provide sufficient food for coming generations. He is doing his part to make the planet a more comfortable place for man.

THE END

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**HIGH
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- 40' boom adjusts up to 8 feet
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FOR SALE: BUFFALO TURBINE DUSTER MODEL 14 new. HEID'S ORCHARD, Dupont, Indiana.

FOR SALE: GALLON CLEAR GLASS JUGS IN CARTONS. N. C. JOHNSTON, Columbia City, Indiana.

SPRAYERS—2 SKID TYPE WITH 500 GAL. TANKS, 55 g.p.m. Bean Royal pumps. Also Hale Cent. 2 wheel 500 gal. tank. Above sprayers have Chrysler 7A engines. Case tractor. Asplundh brush chipper. 2 Chrysler Indust. 7A power units. Cutler apple washer. Model SP John Bean 2-way cleaner. 56x56 hyd. cider press. Bean model C dust mixer. All in good condition and reasonably priced. TREXLER ORCHARDS, Orefield, Pa. on Route 309 about 8 miles north of Allentown.

SPRAYERS HI-PRESSURE 500 GALLON MEYERS 50 GPM Wisconsin air-cooled motor, 4-wheel model on rubber. 300 Gallon HARDIE 30 GPM, 4 cylinder Leroy motor, 4-wheel model on rubber. Grader for apple & peaches NIAGARA made with brusher and motor; 100 to 200 B.P.H. MOUNT GILEAD fruit press, 10" ram, 42" racks, 30 bu. size with racks, cloths, grader, hydraulic pump, etc. complete. C. E. OFFERMAN, Birmingham, Ohio.

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FOR SALE: A-1 CONDITION. GRADING AND CLEANING equipment, for fruits or vegetables. Complete with conveyor belts, packing table, motors. Big discount for quick sale. CINCINNATI PRODUCE GROWERS ASSN., 11 W. Water St., Cincinnati, Ohio.

FOR SALE: COMPLETE FRICK REFRIGERATION machinery for apple storage, also 4 x 4 compressor, has run for approximately 10 months. Will sell for \$1100. JOHN CLEAVER, Marianna R.D. #2, Penna.

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PEAFOWL, SWANS, PHEASANTS, GUINEAS, BANTAMS, ducks, geese, 30 varieties pigeons. JOHN HASS, Bettendorf, Iowa.

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FOR SALE: IMPROVED 180 ACRE FARM INCLUDING young 800 tree apple orchard. Mostly Jonathans and small Hybrid. Seed corn plant, in Shelby County, Iowa. T. E. LAWRENCE, Box 176, Portsmouth, Iowa.

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Early blight was controlled on these staked tomatoes with SDDC, a new compound, and zinc sulfate. On July 25, when this photograph was taken, the green foliage flourished right down to the ground.

NEW CONTROL FOR EARLY BLIGHT

An effective fungicide is now available for use on tomatoes and potatoes

CONTROL of early blight of tomatoes is a problem in truck growing areas. New fungicides are proving their value in controlling this disease not only on tomatoes but also on potatoes.

Parzate L, four pounds per 100 gallons, applied at the rate of 160 gallons per acre gave excellent control in Ohio last season. In a test field at Marietta it ranked tops, with Dipar-zate second and Manzate at 4X concentration third in effectiveness of control. Zerlate ranked very low, slightly better than a check plot.

Another new compound did almost as well as Parzate. This chemical, SDDC (sodium diphenyl-dithiocarbamate), used at the rate of four pounds per 100 gallons plus one pound of zinc sulfate, gave excellent control of early blight on staked tomatoes. It also gave excellent control on potatoes in Ohio.—Eldon S. Banta.

Read the advertisements and remember advertisers will be glad to send you catalogs, specifications, and prices. Be sure to say you saw it in AMERICAN VEGETABLE GROWER.

WHAT'LL IT MIX WITH?

That is the important question in economical spraying. The compatible nature of spray materials is mighty important in safe and effective spraying and AMERICAN VEGETABLE GROWER has produced an ingenious

SPRAY COMPATIBILITY CHART

which tells at a glance just what materials will mix safely. Printed in three colors, mounted on Bristol board paper, it is an accurate guide in the safe and successful mixing of all spray chemicals.

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ROOT DIP TREATMENT

Dipping of roots in Orthocide results in increased growth

WORK at the experiment station at Geneva, N. Y., has turned up some interesting possibilities in the root dipping of tomato plants. It has been found that the dipping of the roots in Orthocide (2-100 concentration) and in Dithane Z-78 (1½-100 concentration) prior to repotting produced more root and top growth than those of check plants which had not been treated.

The experiments were conducted in the following manner: The rather sparse roots of 10 greenhouse John Baer tomato plants were washed free of soil and then immersed in the chemicals for one and one-half minutes. They were then potted in white sand. These plants, together with the 10 untreated check plants, were given the same care in the form of daily water and a nutrient solution.

Thirty-four days after the root dip treatment measurements were taken of the plant height and green weights of the roots and tops.

It is interesting to note that the tomato plants dipped in Orthocide or Dithane produced significantly more growth, both in tops and roots. Of the two chemicals, however, Orthocide gave the better results.

Similar experimental work has also been conducted with Rome Beauty apple trees with results approximating those of the tomato plants.

The idea for root dipping came from Central America and work has been carried on at the Geneva station. For several years nurserymen in Central America have uprooted young cinchona trees (the source of quinine) which have not been thriving, and have dipped their roots in Orthocide which is an excellent vegetable and fruit fungicide. The trees with the dipped roots develop into excellent plants in comparison with the poor or fair development of those with untreated roots.

The mode by which plants are stimulated by these chemicals is not known definitely, but it seems that the active principle or by-products of the breakdown of Orthocide and Dithane Z-78 may actually provide the plant with certain intermediate products useful in its biochemical activities.

What Causes Stimulation

The theory of chemical breakdown in the sand is supported by the fact that the chemicals are obviously taken up by the roots even though they are insoluble in water. It is logical to believe also that the greater top growth

is largely the result of a larger root mass which is capable of supporting more top growth.

The fungicidal effects of the treatments on disease organisms in the root zone can be discounted because the disease factor in the clean sand employed in the experiment was of little significance. Also the possibility of direct nutritional benefit can be minimized since the check plants received the same daily applications of a complete nutrient solution as did the treated plants. Also plants did not exhibit responses which occur following treatment with known plant hormones.

It is interesting to speculate on the possible use of root-dip by growers as a benefit to their transplanted crops. Quite possibly the deposit of fungicide on the roots of transplanted vegetable stock, often in weakened condition following replanting, may protect them against certain root virus diseases.

More work will have to be done to determine which chemical strength produces the best results. It will also be necessary to learn whether the beneficial response of plants in sand also occurs on root-dipped plants that are replanted in soil.

HAPPY WORKERS

(Continued from page 13)

that you give him credit for having the idea. It helps to sustain his ego. You may learn something, too.

PRAISE FOR A GOOD JOB—

Recognition for a job well done costs little but often is a means of earning the co-operation and productiveness of employees. Praise in the presence of others is effective so long as you are careful not to compare one worker with another.

FOLLOW THE GOLDEN RULE

—“To do unto others as you would have them do unto you” is a good principle to follow in all human relations. Although the employer may pay good cash wages plus liberal perquisites, it should be recognized that he must also pay good “mental wages” if he expects to earn the employee’s loyalty, co-operation, and productiveness. The Golden Rule suggests the terms in which those mental wages can be paid.

THE END

Books for Your Home Library

DISEASES OF VEGETABLE CROPS by John C. Walker. The book thoroughly covers the diseases of such vegetables as asparagus, beans, celery, onions, etc. Each disease is discussed in regard to symptoms, cycle of development, and methods of control. It contains 629 pages and is well illustrated....\$7.50

VEGETABLE CROPS by Homer C. Thompson. An up-to-date book which covers such subjects as plant nutrition, weed control, nutritional value of vegetables, recent advances in handling and marketing vegetables, cultivation, irrigation, and storage. The book contains 611 pages and many illustrations.\$6.75

THE TOMATO by Paul Work. Here is a practical treatise on the tomato which is for the amateur as well as the large commercial grower. It includes discussions on characteristics; methods of planting; fertilization; cultivation, points about harvesting, packing, storing and marketing; as well as insects and diseases which attack the tomato. This illustrated book contains 136 pages.\$2.50

USING COMMERCIAL FERTILIZER by McVickar. Here is a book which gives information on what fertilizers should be used and how they should be used for most efficient production.\$3.00

GARDEN SOILS by Arthur B. Beaumont. This book is written especially for the home gardener. The author has presented soil and plant science in simple language. A glossary of scientific terms can be found at the end of the book for the benefit of those unfamiliar with them. Illustrated, the book contains 280 pages.\$4.00

AMERICAN TOMATO YEAR-BOOK edited by John W. Carncross. The new 1953 edition contains much information which is of interest to the tomato grower, dealer, and shipper—all those who are vitally interested in the tomato industry. It contains an up-to-date list of recent references to tomato culture and diseases and pests and their control plus helpful information on prepackaging, use of hormones, and grade requirements for canning and processing. Profusely illustrated, the book contains 40 pages.\$2.00

Books sent postpaid on receipt of check or money order.

AMERICAN VEGETABLE GROWER

Reader Service Department

Willoughby, Ohio

Intangible Assets

DURING these times of constantly rising prices one wonders if there is anything at all which has remained the same. In the category of "free items" we can still list sunshine. Another, of course, is fresh air. Water should be included, but now we are spending money to make it rain.

It takes just as much sunshine and air to grow 10 tons of tomatoes as 20 tons. Maybe the plants don't use as much of either for producing 10 tons as 20 tons, but the same amounts are always available, and the cost remains the same, too. At present there doesn't seem to be any practical way to make charges for sunshine and air, and, anyway, whom would we pay for these?

We know that sunlight and atmosphere have a lot to do with plant growth. Some will say that they have everything to do with it, and they may be correct. Sunlight, or length of day, determines to a great extent the flowering and fruiting habits of plants. Some flower only in short days while others require long days for flowering. We know that sunlight

engineers the whole process of photosynthesis, and without it there would be no life on this planet. As yet no one has created a substitute for it, except for very short periods.

Two components of our atmosphere are especially essential to plant growth, oxygen and carbon dioxide. No one has yet devised a substitute for these, and no life on the earth can exist without either one.

So we do still have some very useful and necessary "things" on this earth which can be had for nothing. They are of utmost importance in the production of our vegetable crops. They have a lot to do with the kinds of vegetables we grow in a given area and are always ready and waiting to help us grow big yields when we manipulate other factors in proper relation to them.

When the end of the growing season comes and we figure up what a big yield of crops we produced and how much it cost, maybe we ought to say thanks for the sunshine and the air, and the rain, too, since we will get no bill charging us for these intangible assets.

Solving the Labor Shortage

ECONOMISTS tell us we are now living in an age of plenty, yet shortages continue to crop up and what was plentiful in the slack years of the 30's is now scarce. Labor is one of these and poses a well nigh insurmountable problem for some vegetable crops, especially in industrialized areas.

Latest figures show that our population is increasing at the astonishing rate of 280 every hour or 6,700 a day. More mouths to feed means more food, and an additional 16 tons of food are needed each day. At this rate by 1975 we must increase our production of food by 20 to 25 percent—and production in 1952 was the highest on record—so there is little or no slack.

If more food will be needed, more hands will be necessary to produce it. But this will not be the case. For many years farm population has been decreasing. Between 1940 and 1952 when total population increased by

25 million, farm population decreased by six million. Average monthly employment on farms for 1946-49 was 11 million persons. Last year employment dropped to 9.8 million.

How to overcome the labor squeeze is getting to be as important as the problem of varieties or fertilizers. Many a crop has gone to waste because there were no workers ready to pick.

One way to obtain and hold workers is to make your farm an attractive and friendly place to work. Clean, pleasant surroundings and comfortable housing will go far to impress your help that this is the place to stay.

But there is one outstanding advantage vegetable growers have over city employers which deserves emphasis. That is the promise of security—security from layoffs and unemployment, security from strike threats, security from atomic attack, and a feeling of self sufficiency in the production of food and other essentials

that the city employer cannot possibly match.

The benefits of city life and a job in an industrial plant plus the incentive of high wages have been spread to the four corners of the country by zealous city recruiters. It is time growers did the same on their own behalf and with a story that basically has great appeal. The good, clean life of the vegetable farm with fresh air and early hours is healthy and satisfying despite the fact of the lower wage.

This country was founded as an agricultural nation and achieved its greatness through agriculture. These points of view need special emphasis in order to bring workers back to the farm.

National Vegetable Week

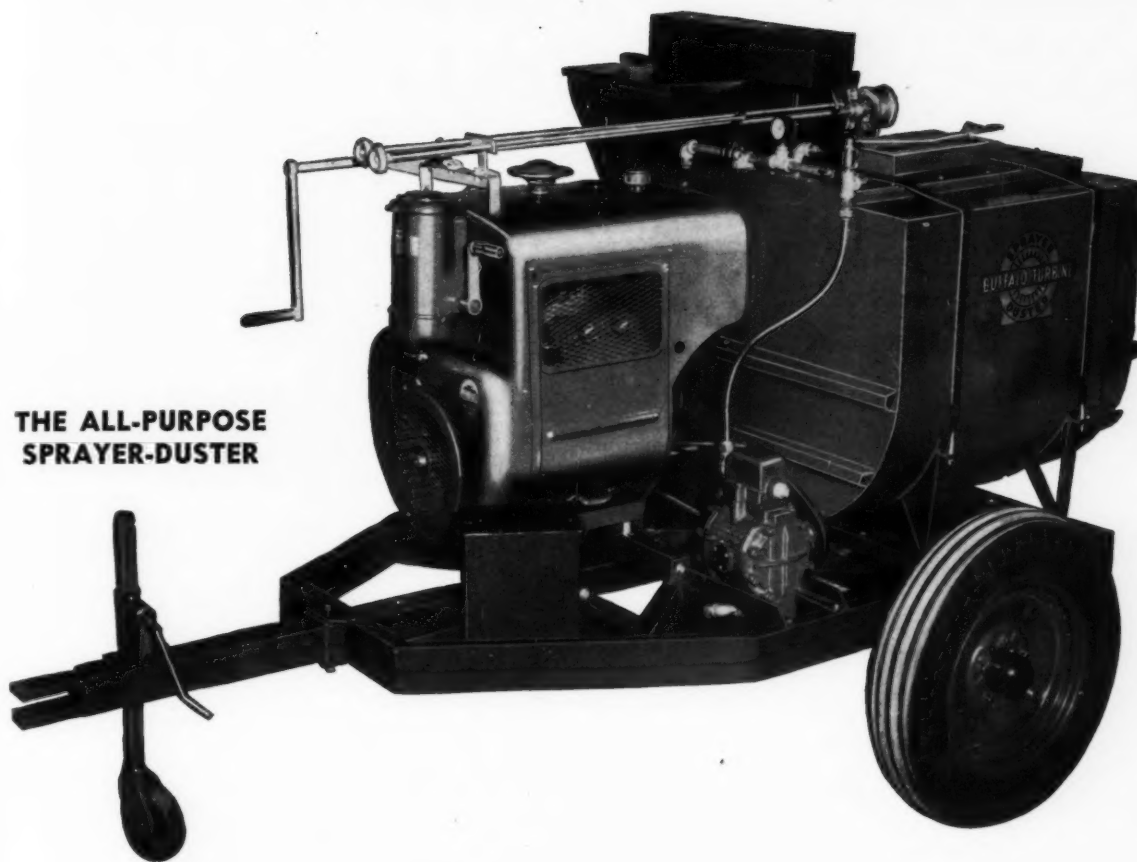
NATIONAL Vegetable Week this year is scheduled for July 30 to August 8. Inaugurated in 1948, this is the fifth year of promotion of this kind and it is reported that since the start of the program not a truckload of vegetables has been dumped due to oversupply in contrast to a loss of 30 carloads of vegetables in Cleveland, Ohio, alone in 1948.

This one example speaks eloquently for organized effort. Especially is this true during a crisis, for it was the serious problem of vegetable oversupply during the August peak season that started the yearly promotion program.

The Vegetable Growers Association of America is to be commended for its efforts to stabilize the vegetable industry in this profitable manner. Organized effort applied in other directions can further strengthen the vegetable industry. Establishment of local co-operative marketing organizations will enable more growers to share in technological advancements in precooling, packaging, and transportation that cannot be afforded on an individual basis.

The labor situation is another link in the chain that can be made stronger by group effort in shifting help from area to area. Last and certainly not least in this year of highest consumer incomes on record is year around advertising of the flavorful foods produced by the nation's vegetable growers.

THE ALL-PURPOSE SPRAYER-DUSTER



WHY VEGETABLE GROWERS ARE BUYING CONCENTRATE EQUIPMENT

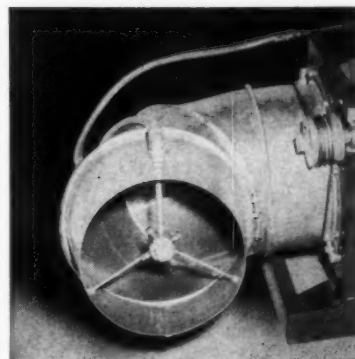
When the idea of developing concentrate spray equipment was first discussed, a number of suggestions were made. These suggestions came from Experiment Stations, chemical companies and growers who were particularly interested in reducing the cost of the annual spray bill. In summarizing the outstanding suggestions, we found that the following items were of extreme importance to the growers:

1. Spraying equipment should be light as possible in order not to unduly pack ground between rows.
2. It should be easily operated by one man.
3. The original cost of the equipment should be reduced substantially.
4. Expensive operation and maintenance should be reduced.
5. The equipment should be constructed to handle concentrate materials which afford greater control and less cost.

The next step was to combine these many suggestions into one piece of machinery which would meet all of the requirements. After a good deal of field testing, this was accomplished in the Buffalo Turbine Concentrate Sprayer. The Buffalo Turbine was the first concentrate sprayer manufactured, and today with many improvements is doing a more than adequate

job for hundreds of vegetable grower owners. The Buffalo Turbine, because it is a concentrate sprayer and because it is designed to meet modern vegetable growing conditions, embodies the following important characteristics:

1. 20%-40% less in original cost.
2. Dust Bin being optional makes it possible for growers to dust when necessary.
3. One-man operation.
4. 75% less in weight.
5. 50% less maintenance cost.
6. Can be pulled by the smallest of field tractors.
7. All-steel-plated liquid tank insures long service.
8. All moving parts which come in contact with caustic spray materials are stainless steel, brass or plated.
9. Less chemical material is needed per tree.
10. Practically no run-off.
11. Greater Penetration.
12. This machine is completely universal—growers can use concentrate liquids, dusts, or both. The equipment can be used in vegetable work, field crops, weed and brush control, and with the simple change of air nozzles, for orchard work.



All growers who wish to increase their profits in 1953 should have the facts on the Buffalo Turbine. If you will write us today, we will be glad to send you full particulars.

BUFFALO TURBINE
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